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ORIGINAL ARTICLES.

ADDITIONAL CASES IN WHICH THE AUTHOR'S SILVER FILIGREE WAS USED FOR THE RADICAL CURE OF ABDOMINAL HERNIA.

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My first seven cases of this kind were published in the *Annals of Surgery*, July, 1903; but since writing that article, experience and reflection have taught me a few technical points which I consider essential to the most successful use of the contrivance, hence I submit here the reports of three additional cases which illustrate the points in question.

Formerly it was my custom to use a gauge 27 silver wire, but now I never employ one heavier than gauge 30, which I find to be sufficiently strong, as well as decidedly more pliable. In fact, a filigree constructed of the latter is surprisingly more supple than the other, and the complete success attained by the use of the contrivance must be attributed to the fact that it adapts itself perfectly to the movements of the abdominal muscles, as well as holds back the viscera.

It has been found of advantage to change the shape of the filigree; formerly I used one of the shape shown in cut No. 1, but latterly it has seemed to me logical to take the average hernial opening as my pattern; that is I have, as cut No. 2 will show, fashioned it so that it is broadest where the pathological opening has its greatest cross dimension, or in other words, the filigree presents the maximum length of wire at its middle where the strain is greatest. It is further considerably easier to introduce a contrivance of somewhat oval shape than one like cut No. 1.

After having operated upon ten of these cases, I am more than ever in favor of the principle which I elucidated in the article above referred to, viz., that all the wires shall run transversely across the field, with the exception of the single strand which binds them together and necessarily follows the long axis of the filigree. The technique of constructing, introducing and anchoring the contrivance has been so fully described in the *Annals of Surgery*, that I consider it quite unnecessary to make repetition of it here. Aside from the new matter here introduced, it is enough to state that more recent experience has served only to increase my estimate of the value which is to be put upon this rather modern principle in the treatment of those herniæ which cannot be, in many instances, successfully handled in any other way.

The above applies to the abdominal wall under stress of ordinary circumstances as regards the intra-abdominal tension; but the filigree will, as my cases show, do far more than meet these ordinary physiological requirements. Indeed

I can prove by two case histories that a filigree such as I have devised, when rightly implanted, enables the abdominal wall to successfully resist an intra-abdominal tension greatly increased as a result of pathological processes. Case No. 2 of my former series was operated upon more than two years ago for a ventral hernia, the result of Talma's operation for cirrhosis of the liver; I implanted a filigree and in spite of the fact that there has been a decided reaccumulation at times, the filigree has done all that could have been expected of it in an uncomplicated case; again I instituted like treatment (case No. 9, the second of the present series) for a post-operative hernia that had followed a laparotomy undertaken for the cure of tuberculous peritonitis. At the secondary operation considerable ascites as well as an extensive eruption of miliary tuber-

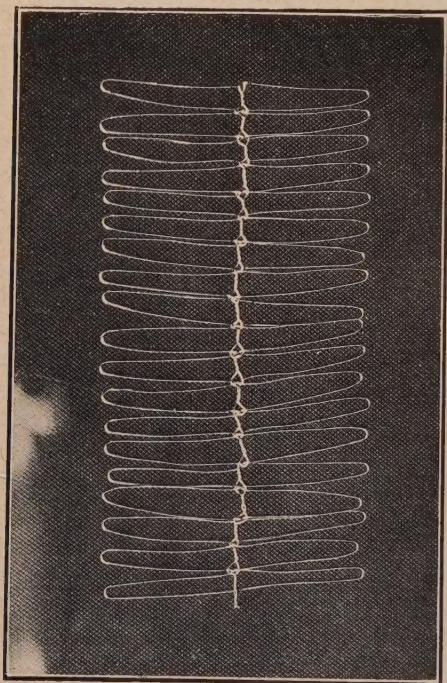


FIG. 1.

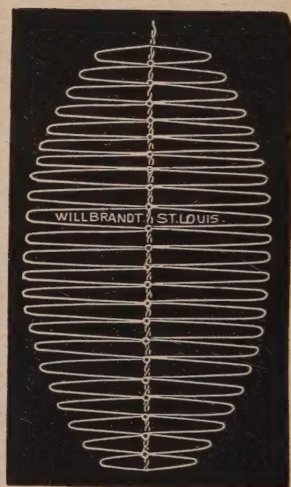


FIG. 2.

cles was encountered, and though the symptoms of chronic peritonitis with exudate have recurred, still there is no sign of hernia, at the expiration of two months, and it must be acknowledged that the filigree has made possible something which a simple plastic operation did not effect, something which cannot reasonably be expected of this last named procedure. In view of these facts, I trust that I may not be thought to go too far when I suggest that such a filigree be implanted in every case at the initial operation, where there is a reasonable certainty that ascitic fluid will reaccumulate within the peritoneal cavity, no matter from what cause.

The three additional cases which I here relate are all of them unusual, though different in every respect. The first is a large and rare "interstitial hernia," the second is interesting because it followed immediately upon a lapa-

rotomy which had been undertaken for the cure of tuberculous peritonitis, while the third is especially deserving of mention on account of its size and position, to say nothing of the problem it presented when the radical cure was first contemplated. My first seven cases were reported in the *Annals of Surgery* of July, 1903.

CASE 8.—Miss R., a maiden lady of fifty-one, had suffered from a gradually increasing enlargement in the right groin and side for about twelve years. The location and size of the mass at the time I first saw her, just before the operation, can be better seen in the accompanying photographs than described. Cuts Nos. 3, 4 and 5 were taken before the operation, and serve well to depict the unusual deformity. Her only subjective symptoms were excessive cramp colic at

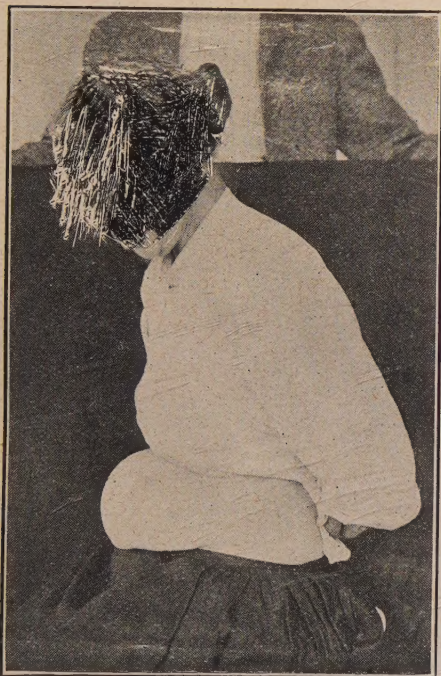


FIG. 3.



FIG. 4.

times, together with an inability to do anything in the way of lifting because of the feeling of weakness and discomfort in the affected side thus engendered. It was impossible to reduce the mass to any appreciable degree, so one was forced to the conclusion that it had not come *directly* through an opening in the abdominal wall. However, there was a decided impulse on coughing, and as this seemed to come from the inguinal region, I naturally inferred that the eventration must have originated in that site. At the operation, which took place at St. Anthony's Hospital, June 22, 1903, a most interesting condition was discovered; the aponeurosis of the external oblique was found to be stretched over the sack, which lay, as large as an infant's head, between that structure and the internal oblique muscle. It had dissected its way up as high as the level of the umbilicus, within that trough which is limited on the outer side by the crest of

the ilium and on the inner by the blending of the aponeurosis of the external oblique with the anterior sheath of the rectus. This well-defined sack ended blind above, but below it gradually diminished in size to pass under the arched lower border of the internal oblique and on into the abdomen. Knowing the anatomical condition, it is now clearly explained why the patient could never at any time stand the pressure of an abdominal binder which had been applied under the false impression that the enlargement was due to a mere relaxation of the abdominal wall; the binder exerted no downward pressure, so did not tend to reduce the hernia, in the proper sense of the word, but merely compressed it between the layers in front and behind it, causing the patient no little discomfort, as a matter of course. The sack was found filled with small intestine and omen-

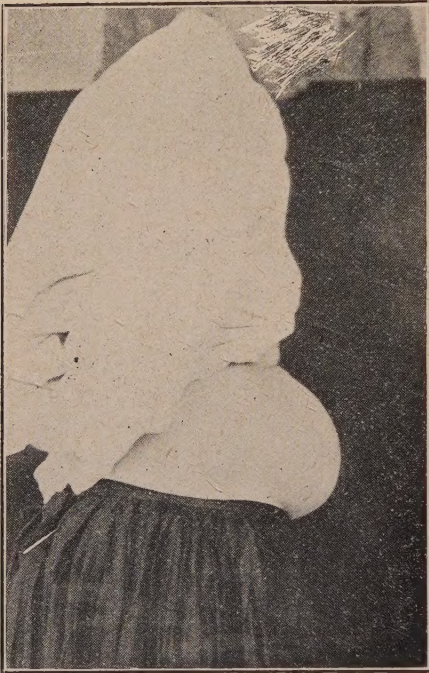


FIG. 5.



FIG. 6.

tum, dissected free, ligated and cut off short; then the internal oblique was sewn to Poupart's ligament. Under ordinary circumstances I should have simply sewn up the longitudinal slit in the aponeurosis, but that structure was so attenuated from the pressure behind that there was a considerable divergence between its component fibers. Fearing that this, which should be the strongest layer of the abdominal wall, would be unable to do its part toward maintaining the requisite strength of the whole, I placed a filigree five inches by two and one-half inches upon the muscle floor, and after shortening the aponeurosis till the fit was correct, sutured the same over the strong but delicate device. The network used here was of the older design, cut 1, which I no longer use, with parallel sides and square corners. No incident marred the recovery; the woman was out of bed in two weeks; there was no bulging or distress, and she ex-

pressed herself as having no abdominal pain for the first time in twelve years. I saw this woman almost three months after the operation, when she was still in perfect condition, the filigree having caused no trouble at any time. The affected segment is as pliable as that on the opposite side, so that the patient's movements are in nowise influenced, while the wires lie so deep that they cannot be palpated, and she is wholly unconscious that anything more than an autoplasmic operation was performed. Cut No. 6 gives a good idea of the present appearance of the abdomen; there was some relaxation of the left side before the operation, and now the condition is seen to be the same on the two sides; the operated side not being shorter or stiffer than the other, but just like it—that is, normal for this individual.



FIG. 7.



FIG. 8.

CASE 9.—Mrs. F., white woman, age twenty-four, tuberculous family history, had been operated upon six months before I saw her for tuberculous peritonitis and the exudate evacuated. A gauze drain had been left in place and the woman kept in bed for three weeks. Immediately upon leaving her bed she had noticed a bulging of the scar, this having gradually increased to the dimensions of a goose-egg, though she had been but little upon her feet up to the time I saw her; in fact, she preferred remaining in bed to experiencing the symptoms which the hernia produced when she was up. These consisted, as they usually do in these cases, of cramp colic alternating with seasons of constipation. The operation was done July 18, 1903, at the Female Hospital. After the skin scar and the sack had been removed, the opening in the peritoneum was closed with Halsted wire loops which included the edges of the recti. Upon the bed

thus formed was placed a filigree like that shown in cut 2, four and one-fourth by two and one-half inches in size, over which the rectus sheath was partially sewn. There remained a gap of almost an inch between the edges of the sheath in the middle of the wound, a condition which must have rendered a recurrence certain, had no such artificial aid been at command. But as experience in these ten cases has shown, it does not matter much what one does with the other layers of the wall so long as he has at command plenty of peritoneum, skin and the proper sort of filigree. After a skin suture the patient was placed in bed where she remained for three weeks without anything marring the recovery. When she was up and around the hospital a few days later there were no symptoms of hernia to be sure, and, indeed, none which called attention to the presence of the filigree. When I last saw her, September 8, 1903, she was a well woman so far as the abdominal wall was concerned, though there were evidences of

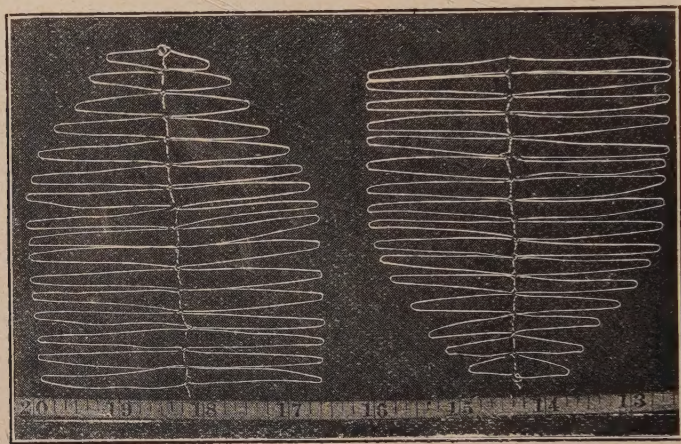


FIG. 9.

the persistence of the chronic peritoneal disease. This can only serve to make the test of the filigree the more severe.

CASE 10.—Mrs. T., colored woman, age forty-three. She had been operated upon six years before I first saw her, the uterus having been removed. She had spent six months in bed before the widely-drained wound had closed, so had had every chance of escaping a hernia. There had, however, been a marked bulging of the scar even before she was out of bed (coughing, etc.). This had gradually increased in size up to the time I first saw her, when it had assumed the remarkable proportions and appearance shown in cuts Nos. 7 and 8. The symptoms in this case were most marked. In addition to the usual colic and constipation, there was such a marked feeling of weakness and abdominal distress upon standing, that I could hardly keep the patient in the erect position long enough for me to take the two photographs just referred to. In short, the woman was a physical wreck, as might be well expected when I relate that the opening in the firm structures of the abdominal wall had a diameter of four and one-half inches, being almost round. I operated upon her July 20, 1903, at the Female Hospital, finding no trouble in reducing the herniated small intestine and in excising the sack. The wound in the peritoneum was sewn up together with

all the layers found behind the rectus muscles, the posterior aspects of which had been extensively bared by blunt dissection. Within the cleft thus formed I implanted a filigree unlike any I have described and consisting of two segments. Each of these segments was really two-thirds of a filigree like No. 2, as far as length is concerned, the width being unchanged. Each of these segments was four by three and three-eighths inches large, and when they had been introduced so that the broad ends overlapped, there resulted a net whose dimensions were three and three-eighths by six inches.

With the muscle wound held well open, the narrow end of the lower segment was anchored by a suture to the periosteum of the pubic bone, and the narrow end of the upper one was fastened in similar manner to the fibrous linia

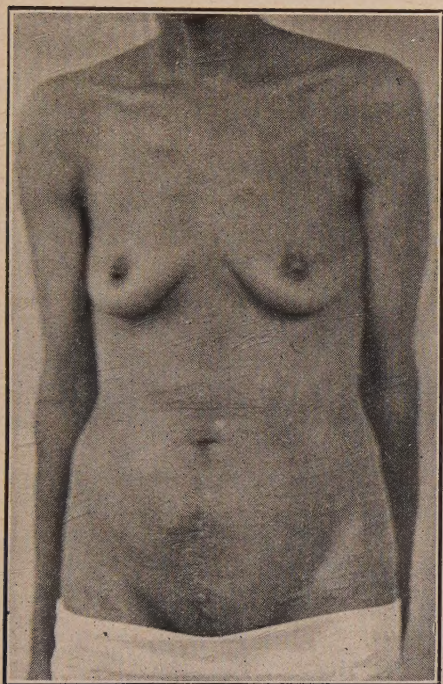


FIG. 10.

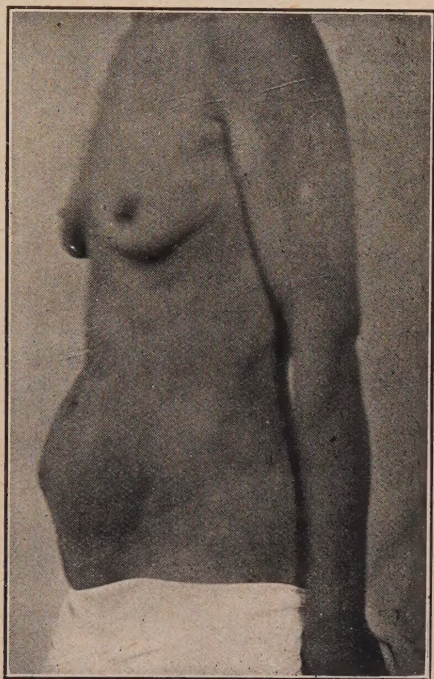


FIG. 11.

alba, as high up as the under surface of the recti muscles had been undermined; then the two overlapping segments were united by a single wire, which bound the longitudinal connecting bar of each firmly together. Cut No. 9 shows the outline of these two segments, and the appearance presented by the overlapped broad ends can be imagined. The edges of the recti could now be completely joined over the contrivance, but the anterior sheath could be approximated in only a part of the wound, leaving a gap of perhaps an inch. The skin was sewn tight and the woman kept in bed three weeks, everything having healed per primam. Her condition on getting up was most gratifying; the photographs taken a few days later show that there was no more hernia, refer to cuts No. 10 and No. 11; while the subjective manifestations were equally satisfactory, there was no more colic or weakness, in fact not a symptom of any kind, her very fa-

cial expression was different, she was indeed a new woman. I saw her nearly two months after the operation when her strength had been entirely regained and the anatomical condition was all that could be desired.

In closing, I wish only to call attention to this latest improvement in the technique, viz., that of implanting the filigree in segments. By so doing the operation is rendered much easier, it having been found difficult to introduce in one piece a delicate filigree, which must of necessity be larger than the opening which it is to block. Even with the best of wound retraction it was always more or less bent. In this way one is relieved of the fear that a ready-made filigree may not fit the wound for which it be intended (and this can never be accurately judged before the dissection has been made); and it is by this method alone that the surgeon can hope to fill out the entire gap which he has made between the tissue layers, thus implanting the largest net which it is possible to use in a given case; in other words, giving the patient the best possible guarantee against a return of the malady. My advice is then expressed in a few words; secure a filigree very much longer than could possibly be used, cut it in two and anchor the two segments as far as possible back between the tissue layers, then allow the broad ends to overlap for an inch or so, cutting off any redundant portion.

Thus, as my experience with ten cases (one of them more than two years old) has shown, the surgeon has at his disposal a very easy method which practically guarantees his patient against hernia in future. However, one thing is to be kept in mind, viz., that the wire filigree must be perfectly pliable and lend itself readily to every movement of the abdominal muscles; this essential quality is found only in a contrivance made up, with the exception of one connecting strand, of wires disposed *across* the field, this being the only logical call for their support anyway, since laparotomy wounds spread in the lateral and not in the longitudinal dimension.

(It will give me pleasure to submit to the firm making these filigrees for me, the address of any surgeon who may be interested in trying them.)

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DIAGNOSIS OF SYPHILIS OF THE EYE.

By JOSEPH W. SHERER, M. D., of Kansas City, Missouri.

It can scarcely be thought too broad a statement to say that there is no tissue within the orbit which syphilis may not invade, and no walk in life where syphilis does not occur. During its clinical course there are a number of pathological processes which its protean manifestations may imitate, and not a few clinical conditions for which its lesions may be mistaken. The delicacy of the organ and the preciousness of its function alike require the greatest conservation, and, correspondingly, the malignancy of this disease and the fatality of its progress alike require of the practitioner the promptest therapy.

Perhaps in no class of cases is it more requisite that a broad clinical experience be combined with a thorough pathologic, and these with an educated diagnostic instinct. The touching pathos of the appeals of those plunged into irretrievable blindness has brought to me the most painful experiences by which my sense of the humane has ever been aroused. More need not be said.

It is not my purpose to enter upon the details of syphilitic ocular statistics, but I wish to say in passing, that in frequency of occurrence and gravity of results, these cases are second only to the different ocular infections by the diplococcus of Neisser. In the statistics of blindness recently published by Johan Widmark, of Stockholm, syphilis is assigned as the causative agent in 17 per cent. of all cases. The distribution is as follows: Optic atrophy, 8. per cent.; exudative choroiditis, .5 per cent.; chorioretinitis, 5. per cent.; iritis, cyclitis and iridocyclitis, 1.5 per cent.; meningitis and cerebral syphilis, 2. per cent. These terms are considerably higher than the older and much more extensive statistics of Magnus. There are objections which may be offered to either table, but, making due allowance for error, I think the above figures none too expressive of the great seriousness of the subject.

Ordinarily, ocular syphilis is not more difficult to diagnosticate than syphilis elsewhere, but some of its rare forms and aberrant expressions may be very puzzling. Syphilitic dacrioadenitis occurs and needs to be distinguished from other adenopathies of the lachrymal gland, such as mumps, adenoma, sarcoma, lymphoma, epithelioma and osteochondroma. According to the observations of De Lapersonne, in syphilitic dacrioadenitis the gland is enlarged, indurated and painless. In one case there was accompanying orchitis, mastitis, parotitis, multiple adenitis, and following iritis and choroiditis. The infection appeared to have the predilections of mumps.

Syphilis may invade other parts of the lachrymal apparatus in the primary, secondary or tertiary stages, but most frequently the tertiary stage, and by preference the lachrymal sac, where syphilitic fungoid growths must be differentiated from sarcoma, carcinoma and tuberculosis. Sarcoma is quite uncommon here. Carcinoma in the form of epithelioma usually spreads thither from adjacent territory, and is relatively rare. The differentiation from tuberculosis is more difficult. The presence of tubercle elsewhere in the economy, the presence of a marked dyscrasia not syphilitic, or, on the other hand, pre-existing or co-existing syphilitic lesions, will be decisive.

Iysaka has just reported a case of syphilitic conjunctivitis and tarsitis in which there was diffuse swelling, no secretion and no follicles. The lids were greatly hypertrophied, indurated and not sensitive to pressure. It was a tertiary lesion, and the diagnosis was confirmed by the anamnesis.

Mucous patches and gummata occur upon the conjunctiva as well as upon other mucous surfaces, and although their appearance can hardly be said to be sufficient alone to establish their specific character, still the accompanying lymphatic induration and other coexisting signs of secondary or tertiary syphilis are evidence enough to enable one who is informed to make the correct diagnosis.

Of the ocular muscular paralyses, about 60 per cent. are due to lues. They may also be due to rheumatism, to diphtheria, to scarlatina, to diabetes, to poisons such as tobacco, alcohol, lead, ptomaines and drugs, to cerebral disease such as meningitis, tumor, aneurism, parietic dementia and bulbar palsy, or they may be due to disease of the spinal cord such as locomotor ataxia and multiple sclerosis. In a young adult the palsy will generally be found to be either syphilitic or rheumatic. The syphilitic ocular palsies are generally peripheral, unaccompanied by pain, of the third pair, from the acquired disease, and come on rather late in its course. The rheumatic palsies are somewhat different in character. Although likewise usually peripheral, they generally affect the sixth

pair, follow exposure to cold, and are accompanied by frontal or periorbital pain, or by painful sensations on moving the eyeball. When the palsy is from diphtheria, scarlatina or other toxin of that ilk, the ciliary muscle is involved, the lesion immediately follows the disease, and the history is given without reserve. If the paralysis be due to brain disease, there are generally other symptoms of brain lesion. Thus, if the cause is a brain tumor, there will probably be choked disc. Other less frequent causes are to be determined by finding the morbid factor present.

Of the numerous keratitides, about two-thirds are due to hereditary lues. As the diagnosis of the ordinary diffuse interstitial keratitis is simple, I will refer only to a few anomalous types of luetic keratitis the recognition of which may be difficult. Instead of the grayish or yellow-red infiltration and opacity spreading regularly from periphery to center, as in the more usual form of deep, diffuse, interstitial keratitis, the invasion and a varying amount of vascularization may be limited to a small area or areas near the margin of the cornea. The accompanying conjunctivitis, lacrimation, photophobia and pain give rise to a condition which is clinically almost indistinguishable from serofulous phlyctenular conjunctivitis. The "epaulet" form of inherited luetic limited nodular keratitis of Wicherkiewitz may easily be wrongly diagnosed as serofulous conjunctivitis. In the borderland cases accessory signs of inherited syphilis are to be sought. Some of these are Hutchinson's teeth, a sunken nasal bridge, snuffles, a coarse, flabby skin, rhagades at the angles of the mouth, defective hearing, dwarfed stature, scars about the alæ of the nose and in the pharynx, nodes on the crests of the tibiæ, enlargements of the knee-joints from chronic synovitis, and indurated lymphatic glands.

I have not space to describe in detail some other mimetic forms of luetic keratitis. The lines along which the solution of diagnostic difficulties is to be successfully reached have been sufficiently indicated.

Observation of the iris may be precluded in the group of diseases described above. The existence of iritis or iridocyclitis may be surmised from seeing in the ciliary zone a slaty hue or bluish-gray color. Another condition of the iris which requires elucidation is that in which inflammation is accompanied by the formation of nodules. There are two epochs in the course of syphilis during which this may occur. The first is early during the secondary manifestations. The second is after the lapse of quite a number of years, in the tertiary stage. These nodules must not be confounded with the nodules of sarcoma or tuberculosis. In secondary syphilis the iritis which coexists is a malignantly plastic one. There is a great tendency to the formation of posterior synechiæ which are large, coarse, inextensible and of a dark color, in contradistinction to those which form in rheumatic iritis, and which are fine, extensible and of a light color. The nodules are true condylomata, whence the term condylomatous iritis has been derived. The nodules are single or multiple, seldom exceed 2 mm. in diameter, are more likely to be near the pupillary margin, are reddish brown and become lighter in color as they grow. The tertiary nodules are accompanied by the syndrome to which the misnomer serous iritis has been applied. There is a deposition of fine dots upon the posterior surface of the cornea, a condition which was formerly miscalled descemetitis. There is cloudiness of the vitreous body, and occasional accessions of secondary glaucoma. There is but little danger of posterior synechia. The nodules are true gummata.

Tubercular nodules are usually numerous multiple, about the size of a millet seed, reddish or yellowish or yellowish gray in color, with slight inflammatory reaction, but with ciliary redness and tenderness. Sometimes there is the pathognomonic appearance of a single large gray nodule with satellite-like, smaller, translucent nodules grouped around it.

Melano-sarcoma and leuco-sarcoma occur, as a rule, in the lower half of the iris, are not transparent, are yellowish or brownish and very vascular. With a lens many fine vessels may be seen coursing over them, and there is a special tendency to repeated sharp hemorrhages. All these neoplastic formations are prone to be accompanied by secondary glaucoma. It is not within the province of this paper to discuss the ordinary symptoms of iritis and of the irritation which results from the conditions just mentioned, but only to indicate the more useful points of contrast.

Gummata of the uvea are to be differentiated from tuberculosis and the so-called spontaneous panophthalmitis. All of these conditions are very grave and the urgency very great. In order to preserve ocular integrity, intervention must be very prompt and very active. Gummata of the uvea are nearly always in the ciliary body and processes; they are precocious tertiary syphilides, and are generally preceded by iritis of the distinctly syphilitic type. The iris involvement begin at the base, and consist of a grayish-yellow prominence, spreading toward the pupil. In the adjoining sclera a reddish swelling develops, which rapidly becomes fungoid. A recognition of the luetic character of the disease is sufficient for the diagnosis.

Numerous, varied and striking fundal conditions arise in both acquired and hereditary lues. Specific neuro-retinitis is to be differentiated from choked disc and albuminuric neuro-retinitis. In choked disc the veins are congested and tortuous, while the disc is swelled, cedematous, of increased diameter, protuberant and has the appearance of spermaceti. In albuminuric neuro-retinitis the disc outlines are blurred or obliterated, and there are large or small white or yellow-white spots or patches scattered over the fundus, especially in the macular region, where they may be arranged in a ray-like manner around the fovea. In specific neuro-retinitis the disc outlines are blurred, and there are diffuse or central vitreous opacities, which cause part of the blurring of the disc. There is no vascular congestion and no choroiditis. Rarely white scales form on the vessels, and when present they are pathognomonic.

Luetic retinal arteritis, from acquired infection, consists of white lines along the artery walls, with or without opacity of the retina and with or without more or less numerous hemorrhages. With the progress of the disease the type is produced which has been compared by Schoebl to the cerebral syphilitic arteritis described by Huebner. The arteries are gradually converted into thin, gray lines or bands, and the veins become congested and turgid. Symptoms are absent or unimportant until the disease is well advanced. As the disease usually exists in eye and brain, the diagnosis cannot fail to be of great importance.

In the type of syphilitic retinitis of Jacobson, as agreed in by Oswalt, Schweigger, Classen and Hirschberg, dust-like opacities appear in the posterior vitreous, and tend to dim the disc. A grayish opacity of the retina occurs at the posterior pole, and extends by digit-like processes along the vessels toward the equator. Small, round, red, or white foci cover the retinal vessels at places like strings of berries or pearls. Symptomatically, there are night-blindness, reduced light sense and diminished visual acuity.

Perimetrically, annular scotomata are sometimes demonstrable. Syphilitic central relapsing retinitis and syphilitic hemorrhagic retinitis are both so rare that I will not here enter into details concerning them.

Syphilitic pigmentary degeneration of the retina is a pure pigmentary degeneration, and is generally due to acquired, rarely inherited, syphilis. It resembles congenital retinitis pigmentosa very closely. They can be differentiated by observing the following: The syphilitic form of the disease is monocular, central vision is reduced, the deposits are peripheral, the visual field is contracted, there is night-blindness and there is reduced light sense. True congenital retinitis pigmentosa, not of luetic origin, is monocular, central vision is normal, the deposits are peripheral and grow toward the center, the visual field is contracted symmetrically, there is night-blindness and reduced light sense.

The syphilitic chorio-retinitis of Foester, as first described by him in *Archiv. fuer Augenheilkunde*, possesses pathognomonic signs, and still is one of the most easily overlooked of conditions. This is so because the very fine dust-like deposits in the posterior vitreous, which are characteristic, may be inscrutable to examination by the ordinary method. The pronounced redness of the papilla may be no greater than that from functional cases. It is hard to see the fine deposits with the bright light, the concave mirror and the small pupil, which are the usual conditions of an examination, but with reduced light, a plane mirror and a wide pupil, they may be easily seen. From this condition alone acquired syphilis can be as positively predicated as can nephritis under certain other conditions. The opacities may be diffused regularly through the posterior part of the vitreous or they may be arranged in symmetrical rows and groups. They may be fixed, or they may oscillate if there be liquefied vitreous. There may be bright red, gray or white spots around the macula. In old cases there may be found at the periphery scraggy, irregular plaques of alternate absorption and proliferation of pigment. In some cases the center of the fundus looks bluish-gray or with intersecting scar bands suggestive of coarse matting. In some cases of long standing the appearance may be strikingly like that of true non-specific retinitis pigmentosa. By remembering the characteristics of the latter, as given above, the diseases may be separated. In the syphilitic condition, moreover, the pigment is less mossy or lace-like, and coats the vessels less. Perimetrically, however, the diseases are very similar.

Chorio-retinitis pigmentosa from acquired syphilis is to be distinguished from the same condition arising from the disturbances of puberty and of the climacteric as well as from the posterior staphyloma of progressive myopia. The fundus is marked by alternating areas of yellowish-white spots and irregular black spots, which are due to varying pigment absorption and proliferation. The stroma shows some proliferation with the formation of exudate into the lamina vitrea.

In the familiar choroiditis disseminata it is necessary to distinguish between those cases which arise from tuberculosis, rheumatism, malaria, anemia, gonorrhea, typhoid and the rare diseases typhus fever and Paget's osteitis deformans. The tubercular and syphilitic cases are about equally frequent. The tubercular cases are usually monocular, the lesions less widely distributed, with less pigmentation and with less tendency to atrophy than in the syphilitic cases. The latter are usually bilateral, with yellowish or whitish flakes about the macula, dust-like opacities in the posterior vitreous and with changes in the walls of the

vessels of the choroid and retina. These qualities distinguish the disease. All of the foregoing conditions in the fundus are due to the acquired disease. The conditions in the fundus of the inherited disease are numerous and varied. Sidler-Huegenin has just published a two hundred and fifty page monograph upon the subject. An adequate description of their picturesque displays would prolong this paper beyond its proper limit.

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ILEO-COLITIS.

BY L. L. MEANES, M. D., of Des Moines, Iowa.

Ileo-colitis is an inflammation of the mucous membrane of the lower portion of the ileum and of the large intestine. This disease comprehends what is usually called dysentery and many forms of enteritis. Of the intestinal diseases in general this probably is the most prevalent, the commonest age being under ten; consequently the discussion of this paper will be confined to the disease as seen in children.

Sex, race and social condition seem to have no influence upon the disease. It is found equally in both sexes, and all races seem to suffer alike; social conditions affect it only in that the diet and general surroundings of the patient are different. Among the causes of the disease, the predisposing ones are to be found largely in the diet of the patient. Next to diet, if not equally important, is that of ventilation or air. Many cases occur in patients who are well nursed and well cared for in every other particular but lack of abundance of fresh air. We are frequently called upon to treat cases of ileo-colitis of the gravest type in which the only cause, either exciting or predisposing, is that of insufficient ventilation. Small children are kept in bed with their parents in an ill ventilated room, and not infrequently lights—one or two—are kept burning during the entire night. The result of this poor environment is seen in the gradually increasing anemia of the child, and finally, under some slight exciting cause, an intense ileo-colitis is the result.

As a rule, ileo-colitis is secondary to some slight gastro-intestinal disturbance. These may be so slight as to be almost overlooked, or receive only domestic treatment, the case coming under the physician's care only after the dysentery has developed. It is very easy to comprehend how the putrefactive changes that have their origin in the stomach and small bowel may not be of a very severe type, but being neglected for a number of days or weeks gradually cause a more severe condition of affairs in the lower ileum and large intestine. Boas has explained this on the ground that the movement of intestinal contents at the ileo-cæcal region is slower than anywhere else in the gastro-intestinal tract. Others have explained it on the ground that putrefactive changes beginning farther up the bowel have reached their maximum intensity at this point, and consequently the tissues here must bear the burden of the increased toxicity of the contents.

The pathology of the disease does not bear constant relation to the clinical manifestations. Some cases that have run to undesirable termination show at autopsy only slight changes, which changes do not fully explain all of the severe clinical manifestations. Again, others that go on to fatal termination show the most profound change in the wall of the intestine. And even in those that go on to recovery, from the contents of the stool we know that the pathologic

change in the wall of the bowel has been most profound. The disease begins, evidently, as small localized patches of inflammation, usually confined to the acini of the glands, the number of these localized inflammatory patches depending upon the severity of the case. As the disease progresses these inflamed areas increase in size until finally they coalesce, sometimes involving the entire caliber of the bowel. When a number of these patches are coalescing the mucous membrane is shed in shreds and masses, accompanied by a considerable amount of blood and exuded serum. Often fibrine exudes and forms over the raw surface, and is then cast off, giving rise to that characteristic dysentery stool upon which we often base the diagnosis of the case. The writer of the "American Text-book of Diseases of Children" describes this stool as having a "washed meat" appearance, the shreds resembling washed muscular fiber. They are really fibrin and mucous membrane. The amount of pus passed is considerable in all cases; the amount of blood varying with the intensity of the case. Blood, however, is not a reliable sign from which to make a diagnosis, because it may become so changed before it is passed as to not be recognized.

The symptoms of the disease are not very well defined. The only two constant symptoms that are present are the characteristic stool just mentioned and the painful tenesmus. Otherwise the disease resembles acute or subacute intestinal affections of other kinds. The young patient suffering from dysentery has a constant desire to go to stool. There is a constant straining, sometimes a degree of chronic spasm, almost, there being very few intervals in which the patient is not in this convulsive condition. This, together with the profound intoxication, soon weakens the patient to a point of collapse. The diagnosis, as before stated, must be based upon these two points, viz.: the character of the stool and the intense tenesmus.

In making a prognosis of any case of ileo-colitis we must take into consideration three things: the general strength of the individual, his hereditary tendency, and environment. In this, as in all acute diseases, the individual with a strong constitution stands a better show than otherwise. Heredity plays an important part. With children of parents of tuberculous or scrofulous tendencies, or whose parents are weak or enfeebled from any cause, alcoholic or dissipated in any way, we must make an unfavorable prognosis. The environment of the patient has a great deal to do with the outcome of the case. If proper ventilation, baths, cleanliness and the right kind of food can be used, the prognosis is very favorable. But these factors are almost beyond our control. Even in families who are otherwise very intelligent, it is very hard to get the right kind of care for the children. They will be fed unreasonable things at unseasonable times, and the fear of taking cold prevents the righteous use of cold water. Children will be allowed to remain in the same clothing day in and day out, for fear that they will take cold if the clothing be changed. As the diet in this disease must be restricted, it is not uncommon to find some sympathetic member of the family smuggling little delicacies to the patient, greatly to the patient's detriment. I have seen a case of ileo-colitis terminate fatally because the sympathetic grandmother fed the hungry patient some bananas.

In regard to the treatment there is no specific for this form of diarrheal trouble. As before suggested, the main treatment should be dietetic and hygienic. The diet must be restricted to predigested foods—not the predigested foods of the drug trade, but food that you or your competent nurse has prepared

for the patient. Peptonized milk, barley water that has been sufficiently boiled, should constitute the main diet of the case. It might be well to suggest here that in making barley or rice water for these cases the boiling should be continued for at least four hours, because it is not the suspension of the starch alone that we wish to accomplish, but the thorough hydrozation. This can only be accomplished by hours of boiling. In the first twenty-four or forty-eight hours, in very acute cases, no food at all should be given. Local treatment directed towards the bowel should consist of thorough lavage. This can be accomplished by placing the patient in proper position and using a short rectal nozzle for the syringe. The flushing should be done with a normal saline solution, and it should be repeated every two hours. It is not necessary to use a rectal tube, because the flushing will be just as efficient if the patient is placed in the right position, and the saline solution allowed to flow in very slowly. It should require from five to fifteen minutes to allow a pint of water to flow into the bowel; if it is done more rapidly the spasm that its entrance sets up will defeat the process. Furthermore, the frequent passage of a rectal tube will irritate and injure the lining of the bowel, which is already in an engorged state and specially liable to injury. To overcome the tenesmus after the bowel and stomach have been thoroughly cleansed a little opiate must be used, but this drug must be used with great caution. The best way is to use morphine, making your own solution. If the child is very young, or you would imagine one one-hundredth or one one-hundred and fiftieth of a grain sufficient, this size dose can be easily made. Take your hypodermic tablet of morphine and drop it into the required amount of water, so that one teaspoonful of the solution will give you the required dose. In giving one one-hundredth grain of morphine I find it very convenient to call for a glass and spoon and count out twenty-five spoonfuls of water. In this dissolve the one-fourth grain hypodermic tablet, and direct that a teaspoonful shall be given as required. A spoonful is a very indefinite quantity, but where you have measured out the water, and then direct that the same spoon be used in giving the medicine, you are sure that you are giving the required amount of the morphine. Here you are absolutely accurate, while in paregoric and other opium preparations we are far from accurate.

Drug treatment by the stomach is of little value. Little or nothing can be done with intestinal antiseptics. The best we can do is to give a mechanical sedative in the way of large doses of bismuth subnitrate. Twenty-five grains of bismuth subnitrate can be given every other hour to a child twelve months old. This can be given in divided doses. It will diminish vomiting and thirst, obtund the sense of hunger if it is present, and have a marked sedative action on the mucous lining of the bowel.

Rest in bed is absolutely necessary; the patient with ileo-colitis should not be allowed to move. A little exertion will bring on the spasms of tenesmus and set up the characteristic stool, when we imagine that we have it under control.

Just a point regarding the use of cocaine. Where the tenesmus is due to a low colitis a grain of cocaine dissolved in a pint of hot water, and the bowel flushed with this solution will give a few minutes' rest, which rest means a turning-point for the better.

To sum up the treatment, we will say that hygienic and dietetic treatment are of major importance. The drugs can only control the symptoms; the cure must be brought about by the proper diet.

CLINICAL REPORTS.

A CASE OF SODIUM CHLORID POISONING IN A CHILD.

BY JOHN ZAHORSKY, M. D., of St. Louis, Missouri.

A great variety of antiseptics are used in the form of an enema for the purpose of destroying thread worms. Some of them are very effective, but often there is as much danger to the host as to the parasite. Strong antiseptics should not be used, and most text-books warn against their employment. Hawkins, of Pittsburg, several years ago, reported a case of poisoning from the employment of a carbolic acid solution as an enema.

Recently, I was called to see a child very sick, apparently, from an enema of common salt solution. As I can find no similar case in the literature accessible to me, and as it shows that even simple chemicals should be used with care, the report may prove of some value.

V. C., girl, aged three years, had always been a very nervous infant. Her digestion had been imperfect for several weeks, and a few days ago the mother observed a few pin worms (*oxyuris vermicularis*) on the anal margin. The father at once suggested that the child be treated with a rectal injection of salt water. This was done. A solution of common salt was made (over one tablespoonful to the quart of water) and about a quart of this injected into the rectum. This was soon expelled and the operation was repeated, another quart being injected, which was also apparently expelled.

Soon afterward the child commenced to complain of excessive thirst. She drank an enormous quantity of water, and vomiting commenced, which was followed by great prostration. The child became deathly pale, the extremities cold, the face had a pinched expression, the eyes turned upward.

I saw the child soon afterward. No other cause of the vomiting could be discovered. She had the same milk as her little sister, who was well. She had eaten nothing to which the severe vomiting could be attributed. The child had revived somewhat but constantly called for water. Several watery stools had been passed in the last two hours. She vomited every few minutes and again called for water. She drank about fourteen ounces in a little while, then vomiting began again.

Some carbonated water was ordered; also albumen water. She was given internally a mixture of spirits peppermint, spirits of chloroform and paregoric.

In spite of this, the vomiting and excessive thirst continued for five hours longer.

On the following morning, twelve hours after the enema, the child seemed perfectly well but was passing much urine and still had a thin passage occasionally.

As no other cause was demonstrable, and recovery was so prompt, the severe symptoms must be entirely attributed to poisoning by the sodium chloride.

CASE OF MULTIPLE NEURITIS FOLLOWING MUMPS.

BY JOHN ZAHORSKY, M. D., of St. Louis, Missouri.

Holt "Infancy and Childhood" refers to a case of multiple neuritis following three weeks after mumps and reported by Jaffrey. Osler states that peripheral neuritis is a rare sequel of parotiditis.

Recently, I was consulted in such a case, and while I did not have the opportunity to study the case as thoroughly as the rarity of the disease might demand, the clinical facts are somewhat interesting.

R. P., age five years, boy, had always been healthy and with the exception of influenza six months before had not passed through any acute infectious disease except mumps. Two weeks before the onset of the present symptoms, all the three children of the family, our patient included, had mumps. Our patient had the disease milder than the others and apparently made a very satisfactory recovery.

The present illness began as pain in the abdomen and lower limbs. The mother noticed that he was very restless at night, and that the hands and feet would twitch. He had no fever nor cerebral symptoms, no vomiting nor diarrhea. On handling him he complained of pain in the thighs. Otherwise, he seemed well. Appetite was not impaired and digestion seemed to be perfect.

A few days later it was noticed that he limped. He dragged one foot when he walked.

On examination, no involvement of hip joint was found. The movements in the hip joint were normal and gave no pain on movement. Pressing along the course of the anterior crural nerve revealed great tenderness. The patellar reflexes were abolished and the plantar reflexes seemed lessened, but not quite abolished in both limbs. There was considerable more muscular weakness in the left lower extremity. Sensation was apparently very little affected, although he did not respond to pinching in the left leg as rapidly as the right.

The weakness of the lower extremities became worse until he could not walk. He could sit, however, and used his hands very well. Still, he often complained of a tingling or pricking sensation in his hands. Pain and pricking sensations persisted in the lower limbs for ten days, then a gradual improvement was noticed. The improvement continued, pain disappeared, and after seven weeks the child was apparently entirely well. He could walk and run without difficulty.

The diagnosis rested on the fact that the onset was slow, the pain in the limbs marked, the paralysis bilateral with symptoms in the arms, sensation slightly affected, and finally the rapid recovery. Very slight atrophy of the limbs developed, but not enough to regard as an important symptom.

As the patient had taken no medicine recently and was given nothing for the mumps, the conclusion is that this disease was responsible for the neuritis.

INFLUENZA OTITIS.

BY ALGERNON S. BARNES, JR., M. D., of St. Louis.

In the epidemics of influenza during the past three years a peculiar form of middle-ear inflammation was often met with in the course of that disease. Under my observation it began with sudden intense pain, radiating in the form of a diffuse neuralgia, with sensation of fullness. Nose and naso-pharynx were highly congested, and there was exudation of thick, tenacious mucus. The tympanum was congested and bulging, and when paracentesis was performed the discharge was sero-sanguinous. When properly treated the disease ran its course in about ten days, seldom with pus formation, the hearing gradually becoming normal.

The most peculiar of the symptoms was that, after paracentesis, the pain continued as intense as before, and it was often necessary to administer morphia and apply hot fomentations over the affected part. In a great many of the cases spontaneous perforation occurred.

I have seen cases in which there were recurrences of the pain and tenderness for months after the attack. Some of these cases resulted in a chronic otitis media, which persisted and resulted in deafness.

I contend that invasion by the grip bacillus takes place through the naso-pharynx and tube; therefore the nasal cavity and the pharynx should be carefully watched in the beginning.

After rupture of the drum membrane it is not wise either to syringe the ear or to insufflate powder until the sero-sanguinous discharge has stopped, but antiseptic gauze or cotton should be lightly packed in the outer ear for the purpose of draining the discharge. The naso-pharynx should be well lubricated with bland and soothing antiseptic oils during the attack. It is a good plan to instruct the patient to hold the mouth open when blowing the nose, so that the secretions shall not be forced into the Eustachian tube. Politization should never be done in these cases.

CORRESPONDENCE.

EDITOR INTERSTATE MEDICAL JOURNAL:

Answering the criticisms of your correspondent in the July number of your journal, allow me first to state that my editorial was written, not with any prejudicial opinion entertained about the subject discussed, nor with any intention to cause prejudice against the work of an author whom I honestly appreciate for his scientific attainments. The objection raised against my ignorance of other literature than that specifically mentioned cannot be taken, as this other literature does not give a single essential point or datum not covered by the paper discussed by me. The question whether Councilman in publishing his preliminary report has made positive or only suggestive assertions has not been touched by me. That he himself believes that his findings are positive, is shown by the very fact that he published his announcement. As to the confirmatory opinions of Welch and Calkins, I assure your correspondent that they have almost more weight with me than Councilman's paper itself, but from what I have learned about them they were congratulatory on studious work done, but were not given as an endorsement of the conclusions drawn from it. And I doubt very much if either one of these gentlemen would, if asked for it, endorse the latter.

Councilman has certainly found peculiar formations in the cells of variola and vaccinia lesions. He thinks that he was able to follow up their cyclic development, and that variola differs from vaccinia by an additional cycle (sexual) that is gone through within the nuclei of the infected cells. The course of this development resembles, in some respects, that of known protozoic organisms. In rabbits and calves only the sexual (endogenous) cycle appears, so that in monkey and man we would have the exogenous hosts. During the first days of the infection nothing of these parasites is to be found, just as in malaria.

Developmental cycles of parasites of this category have been described before. I recall the beautiful work of Sawtschenko and his more beautiful pictures of cancer parasites, that to eminent experts appeared to be the proof for the existence of cancer parasites. The pictures are so convincing, the single stages are so persuasively arranged, that even now it seems impossible to condemn these things to the realm of degeneration products. The more refined the methods became the more "parasites" were found. So far not one of them has been able to withstand a critic. Variola and vaccinia have been searched for them more scrupulously than any other pathologic process. There is no method that has not been utilized: nothing has been neglected.

On the other hand, we must not forget that the investigation of protozoa in tissues cannot be confined to their microscopic demonstration; I do not believe that Calkins would call Councilman's organisms protozoa, if his attention had been called to them as such. He would not dare to diagnose small, ring-like bodies or segmentation-forms of so-called chromatic substance in stained specimens protozoa, if he had seen similar things in other pathologic tissues. I do not know of any stage of coccideal (protozoic) development that could not be found at times as cell-inclusion in pathologic or normal tissues; they can be found at all stages in hundreds in the follicular lining of every maturing ovum

of man or mammal. In Sawtschenko's work the different stages were arranged in a cycle by grouping together the several forms found in one tissue. It is different in Councilman's investigations, where the cyclic changes follow the gradual development of the tissue lesions. Apparently this is a difference. We know, however, that with the course of the pustule-formation alterations of the epithelium successively occur; these alterations go along with the formation of cell-inclusions, which, too, change their form and appearance as the lesion progresses. A beautiful series of these pictures may be seen in Borrel's paper on this subject (*Annales de l'Inst. Pasteur*, 1903, February). While in a so-called cancer nest the youngest and smallest "parasites" (rings) lie in the youngest cells, we follow them up there in the older cells gradually to larger forms, then see them break up into small groups of granules and even ameba-like objects, to finally disappear when the cells lie in the center of the nest and become disintegrated or necrotic. Owing to the growth of carcinoma, all these processes can be seen closely together in the same specimen. In variola and similar skin lesions (ovinia, foot and mouth disease), the inclusions follow the tissue changes; they finally become invisible. That in man and the monkey an intranuclear generation of the parasite is found, not in the calf or in the rabbit, which only develop the first cycle from variola as vaccinia, may be explained by the close relation of the first two species to each other, the similarity of the nature of their epithelium and its reactive properties against the variola virus.

The nature of these cell-inclusions is not definitely known yet, but it is certain that they have no parasitic qualities. By all means, it must be remembered that our present knowledge about the finer changes in the protoplasm and nucleus of pathologic cells is limited mostly to what we see in the specimens prepared after the ordinary methods. In almost no pathologic condition have the cell changes been studied with that refinement and exactness of method that is today employed for the search of parasites in diseases the origin of which has not yet been discovered. Comparative investigation would show, and has shown, identical or similar inclusions in other conditions the cause of which is known.

Other considerations than the foregoing have been touched in my editorial. I have already taken too much of your space. Let me say, in conclusion, that I am desirous to see Councilman's claims confirmed, but at the same time I cannot convince myself that he has brought out, so far, any evidence that would substantiate the claim that the variola organism has been discovered, except the constant appearance of certain bodies in the cells of the lesions. That this is not alone my own opinion but shared by other men who, perhaps, can better afford to "assume an authority," is evident from several reports published in American and in German medical journals.

CARL FISCH, M. D.

INTERSTATE MEDICAL JOURNAL.

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EDITORIAL COMMENT.

NEW DEVELOPMENTS IN OUR KNOWLEDGE ON THE IMMUNITY REACTIONS.

The important papers published during the last few months on this subject give, as the first impression, the feeling that a beautiful dream must be buried, because a much wider outlook has been opened. It is possible that some of the positions taken by Ehrlich in regard to immunity will have to fall as such, but there is no doubt, on the other hand, that as heuristic theories they will further continue to exert their entrancing influence. As is well known, the basis of Ehrlich's work was the establishment of the chemical nature of the immunity reactions, as we may shortly call all of those phenomena that of late have taken such a high place in biologic work. Ehrlich has fought many a hard fight for this truth, an immortal monument of which his theory of the constitution of the diphtheria toxin will always remain. Attempting to obtain a control of the observations made, he strictly adhered to methods that offered the same experimental conditions in all cases. In matters so obscure and mysterious erratic experimentation would have led to error and failure. The immense addition to our knowledge that was thus acquired is generally known. It will never be forgotten. Bordet himself has lately abandoned his comparison of the immunity reactions to the process of staining (physical ab- or adsorption), a comparison that was *a priori* futile because no definite criterion as to the difference in character of physical or chemical processes exists.

Physical chemistry could not fail to take its hand in the denouement of these intricate relations, and was prompted to do it by the classic investigations of Eisenberg and Volk on the binding relations of the agglutinins. If bacteria

were brought together with so much agglutinin that an excess of the latter existed, they found that afterwards the bacteria were still able to combine with agglutinin, if more of it was added to the mixture. The quantity of the combined agglutinin increases steadily with that of the added agglutinin, so that a combination fully saturated is impossible. Similar observations were made by Joos on the same substances, and Bordet had long since described analogous phenomena in regard to complements and anti-complements. In another direction Arrhenius and Madsen have investigated a diphtheria toxin, and have found that the curve of its combination with antitoxin exactly corresponds to the curve of neutralization between ammonia and boric acid. The curves that Pirquet has constructed from the neutralization experiments made by Madsen with tetanolyisin show the same character—they are asymptotic. These processes were thus found to follow the law of Guldberg-Waage, which says that in chemical reactions between two or more substances, after the chemical equilibrium has been established, the product of the combined substances stands in a constant relation to the product of the unchanged substances. All of these processes are reversible, and an absolute neutralization is, therefore, not to be thought of. For hemolysins, Morgenroth has first shown this character of the reaction.

These and other investigations, among which those of Landsteiner and Jagie must not be forgotten, have with certainty established that the reactions between receptor and haptophorous group are not of the nature of chemical processes with constant proportions, but of molecular or dissociable combinations. In solutions of this kind the compound and both of the reacting substances are present in constant proportions, the reaction is reversible by the addition or subtraction of one of the substances. A neutralization of the two bodies acting on each other in any form of immunity reaction does not exist, and no matter how much antitoxin we add, there must always remain a certain portion of free toxin.

All of these conclusions could not have been reached, if the chemical nature of the processes had not been incontrovertibly established by Ehrlich's work. It is a mistake to assert that Ehrlich had insisted on the law of constant proportions as obtaining under all conditions; that this impression could get hold was due to the necessity of working under constant and homologous conditions in a field that was new and obscure; only in this way could the foundation be built on which to erect a structure of enormous dimensions. Ehrlich's views on the law of multipla will continue to be acknowledged as the expression of the appearance of the immunity reactions under well-defined and stable conditions. Above all, it is the absolute specificity of the phenomena under discussion that Gruber forgets in his criticism, and that never will yield unless to an explanation identical or similar to that given by Ehrlich.

The truth that the products of immunity reactions are dissociable will influence greatly the course of further research. It will at the same time influence the practical application of these products. Since no complete neutralization of antitoxin and toxin is possible, we will never be able to do away with all of the toxin in infectious diseases. The point is to reduce this unavoidably remaining portion of toxin to its smallest possible amount by the administration of a great quantity of antitoxin. Only thus can the amount of free toxin be kept below the fatal quantity. This is well illustrated by the surprising hypersusceptibility of animals to small doses of a toxin against which they are highly immunized.

Horses that carry millions and billions of units of tetanus-antitoxin in their blood, now and then succumb to the injection of a fraction of the first dose that they received in the course of their immunization. This can only be explained by the fact that in the successive inoculation of toxin some toxin remained free every time; not sufficient to cause symptoms, but, nevertheless, combining with the susceptible cells. In the course of immunization this process becomes accumulative, so that finally only a minute fraction of a fatal dose will be necessary to make full the fatal quantity and to kill the animal. This view, of course, involves the abandonment of the theory that only the susceptible cells produce antitoxin. The antitoxin formation will be considered as a secretion of the body tissues, not accessible to the toxin.

THE DANGER OF TRYING TO GAIN THE INTERVAL, FOR AN OPERATION IN ACUTE APPENDICITIS.

"Doctor, why not rather *bare* the ills I now have, than wait for others that thou know not of" (adapted from the soliloquy of Hamlet), might aptly express the feelings of the victim of acute appendicitis when the subject of operation comes up. At least this seemed to be the consensus of opinion at the recent meeting of the surgical section of the American Medical Association in New Orleans, when Dr. Gibbons proposed the idea.

The consensus of opinion among the best American surgeons is to operate on every acute case seen within the first forty-eight hours; a proposition which formerly seemed to the writer to be lacking in conservatism, and entirely too general for special instances. However, growing experience cannot fail to convince any one that there are good reasons for this way of thinking; and, until we shall possess some definite means of determining the exact anatomical status in each case, we can never know what to expect in the given case when we pursue the "waiting" policy. Knowing that the mortality is very low in early operation, what possible line of reasoning can influence the "internist" to wait? I know full well that we find the anatomical condition in many instances to be such that the patient could have waited for the interim without danger, and I know, further, that all the local damage done by a "perforation" may become walled off occasionally; but, on the other hand, it has been my misfortune to cut in, *without severe symptoms to indicate the true condition*, and find several portions of the small intestines gangrenous. Now, I should like the "waiter" to tell me what becomes of these cases when treated by his method. It must be admitted that efficient surgical treatment has saved some such. Don't let the fear of hernia stand in the way; it can be easily handled and is better than death, at all events. Then there is but one argument left for the reluctant members of the profession, viz.: that the mortality is lower when the interim operation is done. Very true the mortality is lower for the interval cases than it is among those hapless individuals who are held over till the third or fifth day and then, septic and exhausted, are subjected to a trying surgical ordeal. It is hardly fair to take all the acute cases as at present operated upon, and compare their fate with those who have withstood the attack; rather compare those to whom a fair chance has been given during the first twenty-four or even the first forty-eight hours with the interim cases, and the so-called "conservative" thinker will be astonished at the result. But even this is misleading. To get at the true value of the two ideas—that is, to arrive at practical working conclusions—it is necessary to compare the mortality among acute operated cases with that which obtains among all those *who attempt to gain the favorable interim*.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Ehrlich's Diazo Reaction as a Means of Differential Diagnosis.—PELZL (*Wiener Klinische Wochenschrift*, No. 31, 1903), after an extended series of observations with reference to the diazo reaction, concludes that it is positive in (1) abdominal typhoid from the middle of the first to the end of the third week; (2) in measles before the eruption and during the beginning stages of the exanthema; (3) in scarlet fever-diphtheria; (4) in advanced cases of pulmonary phthisis and tuberculosis serosarum; (5) in septicemia.

The diazo reaction is also positive in those diseases in which streptococci gain entrance into the blood, and their sudden advent is indicated by a high septic fever. In these cases the reaction should be the indicator for the prompt and early employment of therapeutic measures, such as the anti-streptococcal serum, collargol injections, etc.

Laparotomy in Tuberculous Peritonitis.—ZESOS (*Centralblatt fuer die Grenzgebiete der Medizin und Chirurgie*, No. 13), presents a complete review of the literature on this subject, citing some seventy references. The history of the procedure is interesting in that its efficacy was discovered accidentally. The first cure of tubercular peritonitis through laparotomy was effected by Spencer-Wells in 1872, who made an exploratory incision in a case of suspected cyst. A most pronounced case of tubercular peritonitis was revealed through the incision. The wound was closed, the patient recovered completely, married, and in 1884 was still in good health.

Koenig was one of the most ardent supporters of the operation, and in 1890 was able to report 131 cases treated in this manner. His results were very satisfactory in all but the dry cases. Following this report the operation became very popular.

Many theories were presented as to the manner in which a cure was effected through this simple procedure. Lauenstein attributed it to the action of the sunlight upon the tubercle bacilli, and the extraction of the necessary moisture for their further development through the removal of the exudate. Von Moosetig-Morhof and Nolen considered the entrance of the air into the abdominal cavity as the important factor, and attempted to prove this by blowing air into the cavity. The one reports three cases, the other one.

Warneck is of the opinion that the operative procedure results in the production of an exudate which destroys the bacilli. Bumm thinks that following the operation there is an increased migration of leucocytes into the abdominal cavity, and that these destroy the bacilli. Some authorities believe that the adhesions thrown out after the operation in a manner enclose the bacteria. It is also maintained that the favorable results of the operation are due to the changes in the circulation.

Some are so skeptical as to assert that many of the cases reported cured through laparotomy would have healed spontaneously and consider the results greatly exaggerated. Borchgrevnik reports fourteen spontaneous cures.

The author discusses at length the question of diagnosis.

Ileus and fistula are two serious complications of tubercular peritonitis that are to be feared. He reports here two cases in full in which both a clinical and

an anatomical cure were demonstrated. The one lived nine years after the operation, the other five and a half.

Esophagoskopie and Its Diagnostic Value.—STORCK (*St. Petersburger Medicinische Wochenschrift*, No. 26, 1903) considers the large majority of individuals favorable subjects for the use of the esophagoscope. The best instrument for general use is the strong, straight tube.

The esophagoscope gives by far the best results in the recognition and localization of foreign bodies.

The early diagnosis of carcinoma of the esophagus is only possible with the aid of this instrument, while anatomical changes such as ulcers, inflammation, scars, etc., are very easily and with the greatest degree of certainty recognized in this manner. The differential diagnosis between functional and anatomical stenosis is in some cases possible only through the use of the tube. In fact, the author considers the esophagoscope second only to the sound in the diagnosis of diseases of the esophagus. He recommends, however, that it be used by specialists only, since a wide experience is necessary to enable one to recognize the existing lesions.

A Contribution to the Etiology of the Simultaneous Development of Influenza and Typhoid Fever.—SLOTKIND (*Centralblatt fuer Innere Medicin*, No. 33, 1903) reports a case of mixed infection in a woman residing in a house where there were both typhoid fever and influenza. Based upon the symptoms, one might have made a diagnosis of a typhoid form of influenza complicated with a lobular pneumonia, or a typhoid fever with early pulmonary complications, or a mixed infection of typhoid and influenza. The early catarrhal symptoms, such as coughing, sneezing, angina, laryngitis, lobular pneumonia, the profuse perspiration which existed throughout the illness, the irregular temperature curve with variations due to no apparent cause—all pointed to the existence of influenza. On the other hand, the enlargement of the spleen, the roseola spots, the diarrhea, sensitiveness and succussion in the ileo-cecal region, the dicrotic pulse, the typhoid habitus, and a typical relapse, were indicative of an existing typhoid infection as well. The etiology at once spoke for a mixed infection, since there existed in the same house two influenza and two typhoid cases. The examination of the sputum and the blood verified the diagnosis which was based upon clinical symptoms. In the sputum were found only the Pfeiffer influenza bacilli. The Widal examination was positive in dilutions of 1 to 10 and 1 to 50.

The author cites a large number of cases of mixed infections of various sorts, such as measles, scarlet fever and vaccination; recurrent typhus and malaria; recurrent typhus and croupous pneumonia; abdominal typhoid and malaria, etc.

Pseudo-Tubercle Bacilli in a Case of Advanced Bronchiectasis.—MILCHNER (*Berliner Klinische Wochenschrift*, No. 29, 1903.)—The patient had had several pulmonary hemorrhages; there was a marked area of dullness over the left lower lobe of the lungs, over which could be heard moist rales and bronchial breathing; in the sputum there were found repeatedly bacilli resembling in every way tubercle bacilli. The diagnosis of tuberculosis was made. The patient died of hemorrhage ultimately. The autopsy revealed no evidence of tuberculosis, but a marked bronchiectasis. Animal experiments demonstrated the bacilli to be pseudo-tubercle bacilli. The microscopical examination of sections permitted of no conclusions as to the distribution of the bacilli in the tissues. It was not possible to stain the bacilli because the tissues had been placed in formalin and alcohol.

Gall-Stone Colic Without Gall-Stones.—KRUKENBERG (*Berliner Klinische Wochenschrift*, July 20, 1903) reports two cases in which typical gall-stone colics occurred periodically. Relief was only had through the administration of morphine. In both cases a diagnosis of gall-stones was made, and operation performed. In each the gall-bladder and ducts were found to contain no stones. The gall-bladder was opened and drained in both cases, and searching examinations were made. Recovery was complete, and there was no recurrence of the attacks.

If a suggestive influence of the operations can be excluded, the writer would attribute these attacks to the twisting of the gall-bladder and the temporary occlusion, in this way, of the duct. In both of these cases the attachments of the gall-bladder to the liver were so meager that one might speak of wandering gall-bladders.

The Value of Ehrlich's Dimethylamidobenzaldehyde Reaction as a Quantitative Test for Indol in the Feces, Etc.—BAUMSTARK (*Archiv fuer Verdauungs-Krankheiten*, part 3, vol. ix) considers dimethylamidobenzaldehyde a very satisfactory reagent for the quantitative determination of indol in the feces. The test is easily carried out, does not take a great while and is adapted to clinical uses. This test fills a long-felt want, since it enables one to determine the quantity in the urine and feces, of the chief end-product of proteid decomposition.

In order to make an exact determination of the extent of albuminous decomposition in the intestines, the indican and ethereal sulphates in the urine, and the indol in the feces must be measured.

In obstipation, achylia, hyperchlorhydria, pernicious anemia and chlorosis there is more or less increase of indol in the feces; while in diarrheas, there is a marked decrease, etc.

The author predicts for the indol test great scientific significance. Further investigation must be made before anything can be said of its practical importance.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

A Case of Diabetes Insipidus Cured by a Surgical Operation.—HERESCO (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 25).—It may be well in beginning to say that this case was reported only one month after the operation had been performed, and to add that the report emanates from Bucarest, the home of Jonnesco, the man who once claimed to cure epilepsy, glaucoma and exophthalmic goitre by excision of the cervical sympathetics. The patient in question suffered from great pain in the left side, having a displaced kidney on that side; it was for the relief of these last named conditions that the operation was undertaken, and not in the hope of helping the diabetes. What was then the surgeon's surprise, the day after the operation, to see his patient void only 1½ liters urine, when his accustomed daily quantity had previously been 12 to 14 liters. The specific gravity also adjusted itself properly, and in short the patient's condition is now all that could be desired. Our author does not know whether the cure is the result of the anchorage of the kidney or the handling of the renal plexus of nerves, as he calls it, or whether it is due to the vascular change which results from a partial stripping of the capsule.

On Lotheissen's Radical Operation for the Cure of Femoral Hernia.—GILLI (*Centralblatt fuer Chirurgie*, August 8, 1903).—The original technique of this operation was, as the author reminds us, to cut down through the external inguinal ring, and then after the sack had been disposed of, to retract the abdominal muscles, etc., upward, the Poupart ligament downward, and then after baring Cooper's pubic ligament to sew the internal oblique and transversalis to it. Gilli adds a step to this operation in that he divides Poupart's ligament where the hernia is large, incarcerated or strangulated. Thus the procedure is rendered shorter, safer and cleaner, while no harm is done, since the ligament can be sewn together again.

Prolapse of the Small Intestine and Sigmoid Flexure Out the Anus.—MOSZKOWICZ (*Archiv fuer Klinische Chirurgie*, Bd. lxxix, Hft. 4).—It is claimed that there is but one case in the literature like this one. The patient, a woman, sixty-eight years old, had suffered for years from a rectal prolapse and one morning, after a night of colicky pains, she was discovered on the closet, trying to push back into the rectum a number of coil of intestine which were protruding. She was quickly taken to the hospital and large as well as small intestine found to be protruding. It seems that in trying to reduce her old prolapse, in the usual manner, she had torn the wall of the rectum anteriorly, where it was completely covered by peritoneum, and the viscera referred to had slipped out. Though she was in collapse, a laparotomy was undertaken, and she promptly died upon the table. The unusual lesion is accounted for by the fact that all the hollow viscera had an unusually long mesentery, while almost the whole of the rectum was covered by peritoneum to within a very short distance of the anus.

The Anterior Gastro-Enterostomy in the Form of the Letter "Y."—MONPROFIT (*Archives Provinciales de Chirurgie*, August, 1903).—Speaking of gastro-enterostomy in general, the author admits that most authorities agree that the posterior wall of the stomach is to be chosen in routine practice, for the very good reason that better drainage is thus to be secured. However, it is in some cases not only difficult, but even impossible to get at the posterior wall, and in many of these perfect results have been attained by making the new opening in the front wall. It may be news to many that the procedure which goes by the name of the "Y" operation, and is known as Roux's operation, was first proposed, but never used, by Woelfler in 1883. In 1891 Maydl, evidently in ignorance of the writings of Woelfler, promulgated the same idea, but did not try it, and it was not until 1892 that it was performed for the first time, and that by Roux. Monprofit, who has done the operation four times, recites two of his cases here (the others have been published elsewhere) and claims four successes. By way of adding something to the technique, our author suggests the advisability of making a very deep incision into the mesentery, often cutting the gut in two in order that there may be no constriction of the omentum or of the colon at the point where the distal segment is drawn over them to be implanted into the anterior wall of the stomach. These four cases derived immediate benefit from the operation, though all were malignant in character.

Typical Respiratory Disturbances in Basedow's Disease—A Contribution to Our Knowledge of Asthma and Death Produced by Goitre.—HOFBAUER (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Bd. xi, Hft. 4).—The author has examined a number of these patients, and found the characteristic curves produced by well-known mechanical moments, but also some others which have hitherto remained unknown. In general, it can be said that the respiratory curve is flattened, that the inspiratory and the expiratory curves are lengthened, and that there are irregularities in both limbs of the curves, which otherwise

were unknown. These cannot be explained as secondary phenomena, so must be accounted for by irregularities in the thyroid secretion. It is to these cases that the author ascribes the well-known cases of thyroid asthma and goitre-death.

The Animal Suture—Its Value in Aseptic Surgery.—MARCY (*Denver Medical Times*, August, 1903).—Here is an article replete with interest and information for every student of surgical history, one fraught with suggestions of a highly practical value as well. As an example of what we may still use with profit from the older methods, Marcy states that he knows no better method of preparing catgut at the present day than Lister's original formula, using chromic acid, carbolic acid and oil. (See original for details.) Physick was the first to use any sort of an animal ligature; these were strips of chamois skin, cut thin and rolled round upon a marble slab. These became extensively used in England and America. Then came parchment, buckskin, kid, tendons of the deer and a great number of other animal fibrous structures. An excellent description is furnished of the way in which commercial catgut is prepared; something which is surely unknown to the most of us. The fact that loathsome putrefactive changes are incidental to the preparation of the raw material make it highly desirable that some other absorbable suture and ligature material supplant catgut. In modern aseptic practice the tendons of every animal, from the whale to the rat, have been used, and many of them have been found admirably suited to the purpose, the writer now preferring kangaroo tendon to all the rest.

The Indications for Surgical Treatment in the Injuries and Diseases of the Stomach; also the Prognosis and Success of Such Treatment.—BURKHARDT (*Wuerzburger Abhandlungen aus dem Gesamtgebiet der Practischen Medizin*, Bd. iii, Hft. 10).—While this article contains nothing really new, still it possesses a value as representing what has been learned from the treatment of about one hundred stomach cases in the surgical clinic at Wuerzburg. An article of its length (forty pages) can hardly serve as a guide for the operating surgeon or stomach specialist, since the details of so vast a subject cannot all be given in a work of this length. Still, the article is all the more suited to certain needs especially on account of its conciseness; especially can this be said of the general practitioner who has no time to read a long special work on each case before deciding what to do with it. Again, the wants of the student are admirably subserved by articles of just this character. The indications for the treatment of injuries are particularly well given. It is not advised to operate upon every case without further ado; the amount of stomach contents (probable) must be taken into account; the influence of shock; whether or not it is an open wound, or a possible subcutaneous rupture; and last, but not least, will the patient's condition still admit of any operative procedure. One is, however, never to wait after a diagnosis of stomach perforation, if the condition warrants any interference. On the surgery of benign disease the author is in accord with the modern view, that the gastro-enterostomy does more good in ulcer and its complications than any other procedure; while in the whole matter of cancer he lays stress chiefly upon the very early performance of explorative laparotomy, with a view to diagnosis and the performance of a radical operation while there is still time to do some good.

Traumatic Hernia.—GUERMONTPREZ (*Gazette des Hopitaux*, No. 83, 1903).—This author deals with the subject in a most logical manner, and shows how a differential diagnosis can be made where the case is a recent one. In illustrating the matter he considers a typical case which has presented itself to him, and by going into the various points involved, shows just how the perplexing legal questions relating to the traumatic or non-traumatic origin of the hernia can be settled. It is safe to concede that a para-inguinal hernia can be traumatic;

within the first week the surgeon can detect evidences of injury, such as abrasion and hemorrhage, which will guide him. When the patient lies down, the hernia disappears completely. The ring is entirely different from that in the other form; its layers are not well defined, the muscle boundaries are thickened and softened, and its direction is never oblique. It may disappear spontaneously, and, in any event, as the healing process goes on there will be observed an adhesion of the skin to the aponeurosis, as well as the appearance of the fibrous nodules which characterize the healing of a rupture of the subcutaneous fat over the abdomen.

Resection and Suture of the Trachea in Stenosis Caused by Diaphragm.—KANDER (*Beitraege zur Klinische Chirurgie*, Bd. xxxviii, Hft. 1).—The usual cause of such a stenosis is the wearing of a tracheotomy tube, made necessary by diphtheria. For this condition, when it really becomes pronounced enough to make symptoms, the ideal treatment is resection, an operation which has been successfully performed in a number of cases. On the dog it was found that the retraction of the new scar caused too great a narrowing of the tube after a circular resection had been done; hence it was found better to make the suture line of longer oval form, so that retraction could not cause so much harm. However, it may be said for the human, with a comparatively wide tube, that this has no practical bearing. Koenig was the first to report a success in this line, though others have accomplished at one sitting what the Berlin surgeon required five operations to bring about. In our author's case there had been a very narrow stenosis from the cause mentioned above, so he resected all the tracheal tissue between the larynx and the fourth cartilage, uniting the ends by catgut sutures through mucosa and silver wire through the other tissues of the tube. The result was all that could have been desired, and in a few weeks the wounds were entirely healed, and the boy was in all respects like other children. Laryngoscopic examination revealed a normal mucous membrane over the field of the operation. Two things are of vital importance, viz.: that a preliminary tracheotomy be made (for the operation), and that especial attention be paid the lungs during the after-treatment.

The Pathologico-Anatomical Ground-Work of Appendicitis.—LANZ (*Beitraege zur Klinischen Chirurgie*, Band xxxviii, Heft. 3).—So much depends, in the proper appreciation of this lengthy article, upon the presence of the illustrations, that a lengthy review of it is not attempted here; suffice it to say that it is the most pretentious thing of the kind that has appeared in the German language of recent times. A large portion of the article is devoted to combating Ribbert's theory of progressive atrophy of the organ, especially in age. As far as treatment is concerned, the author takes the very logical stand that the only way in which to cure appendicitis is to operate on the cases. No intelligent internist stops to fool with opium when his patient has the toothache: now why should he do less than grasp at instrumental aid when it is so grave a matter as appendicitis? Especially must it be urged that every recurring attack brings with it more actual danger than the operation in interval possibly can. Lanz's studies cause him to express the common belief of scientific men of the present day that there is no such thing as an acute appendicitis, in the pathological sense; the first attack is acute, but the anatomical conditions which bring it about have been shaping themselves for a long time in every case.

Thyroidectomy and Sympathectomy for Exophthalmic Goitre.—CURTIS (*Annals of Surgery*, August, 1903).—Dr. Curtis bases his conclusions relative to the value of these two operations partly upon his own operative results and partly upon the work of other surgeons. He has done eleven thyroidectomies with three deaths—all due to acute thyroidism—though it is significant in this con-

nection that a general anesthetic was used in all; by the way, the author is going to try cocaine in future. Nerve resection has been done seven times by the author with three deaths, two due to "thyroidism" and one to the anesthetic (general). Of the others which come in this class, three are cured and one improved. One of the chief symptoms of "thyroidism" is, according to Curtis, a gradual acceleration of the pulse rate to 200 and more, something which Kocher and others have said will occur if a general anesthetic be used in these cases. In fact, a perusal of this excellent article brings one to the belief that Curtis himself considers the general anesthetic to have some reasonable connection with this rather indefinite "thyroidism." The author's conclusion is that the disease can be cured by both operations, a perfect result following partial enucleation in about 60 per cent. of the cases. It is significant to note that Kocher's only bad results were from the use of general anesthetics; indeed, Curtis' quotations from the Swiss surgeon leave us free to conclude that the latter's use of a local anesthetic must have had a great deal to do with the fact that he lost but four out of fifty-nine cases, in which the enucleation was done.

An Improved Process of Attacking Subdiaphragmatic Abscesses of the Liver.—MENDES (*Revue de Chirurgie*, No. 6, 1903).—The author handles the subject in a masterly manner, detailing a way of dealing with the lesion which is ingenious to say the least. He opens his article with general considerations on abscess of the liver, maintaining that it is not enough to make a simple aspiration and drain, since the necrotic particles which must be left behind are almost sure to bring about a recurrence of suppuration. The rational procedure is and must remain, large opening of the focus and packing with gauze and drainage with tubes. The specific problem remains then, how shall we approach a cavity located high up in the liver? We have both the abdominal and the transpleural routes, but prefer where possible to neglect the latter, since it is as desirable to avoid contaminating one serous membrane, let alone the infection of two. Again, it is a tedious process to obliterate the pleural layers by suture, and, further, the fixation itself may later give rise to unpleasant symptoms. The author's simple and effective procedure is the following: he resects the eighth and ninth ribs in the mammary line, then dissects up the parietal pleura as well as the cul-de-sac formed by its reflection onto the diaphragm, and after a small portion of this muscle is exposed, incises it and comes directly onto the liver which is adherent to it if the region of the abscess has been found. Of course, the work on the pleura is done by blunt dissection, the effort being not to tear it.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Value of Vegetable Proteids in Diabetes.—SCHUMAF-LECLERCQ (*Wiener Med. Wochenschr.*, 1903, No. 18-21).—A number of striking experiments have pretty thoroughly demolished the old theory that diabetes consists in an inability of the body completely to use up the sugar ingested. The opposing theory of Kolisch, that in diabetes a toxic irritation causes a splitting off of sugar molecules from the tissues themselves, is steadily gaining ground. Of all the foods, animal albumen most strongly stimulates tissue metabolism, and, therefore, according to the theory, would most powerfully aid the unknown diabetic toxin in splitting off sugar from the cellular protoplasm. Kolisch accordingly advised substituting vegetable for animal proteids in the dietary of diabetics.

The writer has tested this theory in a series of carefully observed cases of diabetes at Carlsbad. The patients were all given a uniform fundamental diet consisting of 350 c.c. black coffee, 250 c.c. white wine twice daily, 100 g. fat, ten yolks of eggs, two whole eggs, 500 g. green vegetables and 350 c.c. clear beef broth. In addition, during alternating periods of five days each they were given 400 g. of meat or a corresponding amount of vegetable albumen (80 g. Roborat). In the great bulk of observations the excretion of sugar, as compared with that of nitrogen, was very much greater when the animal albumen was given than when vegetable albumen was taken. This, and the fact that the latter is much less irritating to the sensitive diabetic kidneys than the former, leads the writer strongly to recommend the use of vegetable rather than proteid diet in diabetes.

Ice-Suppositories in Dysentery.—KAYENSKY (*Rev. de Therap.*, 1903, No. 5; *Centralbl. fuer die ges. Therap.*, 1903, No. 8).—For the relief of tenesmus pieces of ice as thick as the patient's little finger and two-thirds as long are slipped into the rectum. As soon as one has been melted, another is inserted until five have been used. At first the patient is apt to complain of some discomfort, but very soon the tenesmus ceases entirely. When it reappears, the treatment is to be repeated. In many cases the general condition is also favorably influenced. Within the first twenty-four hours the number of stools falls from 50-60 to 15-10, and recovery soon takes place.

The Treatment of Post-Operative Meteorism by Means of Physostigmine.—LUDWIG MOSKOWICZ (*Wiener Klin. Wochenschr.*, 1903, No. 22; *Centralbl. f. d. ges. Therap.*, 1903, No. 7).—The suggestion of v. Noorden to use physostigmine in cases of meteorism has not as yet been extensively followed on account of the poisonous qualities of the alkaloid. The writer has found that with proper dosage this fear is groundless, and that especially in post-operative intestinal paralysis, physostigmine may directly be the means of saving life. The first case in which the drug was used was after a colostomy for the relief of malignant rectal obstruction. For the first week a plentiful stool was obtained through the artificial anus, either spontaneously or by irrigations. During the second week, however, no feces were passed in spite of high irrigations; the abdomen became more and more tympanitic, the patient refused all food and rapidly passed into a condition of collapse. It seemed that the long-continued rectal stenosis had led to an intestinal paralysis. The patient's condition appearing hopeless it was thought justifiable to make a trial of physostigmine as suggested by v. Noorden. On account of the patient's nausea, it had to be given subcutaneously, and as good results could be hoped for only from a large dose, the maximum quantity permitted by the German pharmacopea, 1 mg., was administered hypodermically. Noorden had never given more than $\frac{3}{4}$ mg. by the mouth.

On the 6th of August, then, one gram of a one-tenth per cent. watery solution of physostigmine salicylate was injected subcutaneously. No systemic disturbance was noted. The next day the abdomen was much softer, and great quantities of mushy stool were passed by the artificial anus. The remarkable feature was, that from that time onward there was a nearly continuous evacuation of stool for nearly three days. The patient rapidly gained in strength and recovered his appetite. On August 13th, however, he suddenly went into collapse, and died on the 15th. The case had shown, however, that in a greatly weakened individual one mg. physostigmine salicylate hypodermically was not only well borne, but that thereby a striking improvement could be produced. This conclusion was still further confirmed by the two following cases.

The second case resembled the first in that the patient was an old man, greatly weakened by an appendicitis which had produced an excessive meteorism. The hypodermic administration led to the passage of stool and flatus, and unquestionably greatly contributed to his ultimate recovery.

The third case was still more striking. The third day after the resection of an appendix for recurrent appendicitis a condition of great meteorism set in. Repeated enemas were without result as regards either stool or flatus. The patient's condition grew steadily worse; a marked cyanosis indicated a hindrance to respiration on account of a pushed-up diaphragm. Enemata of senna infusion were without avail. As a last resort the writer administered physostigmine hypodermically, but on account of the condition of collapse only half a milligram. Two hours later large amounts of flatus were passed, and the patient at once felt relieved. Next morning the abdomen was softer and the cyanosis had disappeared. There had, however, been no stool. Even after another injection of half a milligram of physostigmine salicylate no stool appeared. It was not until a dose of rheum had been given that a fecal evacuation was obtained. The patient's recovery thereupon was without incident.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

On the Cultivation of Trypanosoma Lewisii.—("Contributions to Medical Research," pp. 549. Dedicated to Victor Clarence Vaughan. Ann Arbor, Michigan. 1903.)

MacNeal and Novy have reached the goal that has vanished out of reach to many earnest attempts. Cultivation of protozoic organisms, in the bacteriological meaning, so far was impossible, and we were satisfied to be able to grow amebæ in symbiosis with bacteria. The authors have succeeded in producing pure cultures of the rat-trypanosoma on a medium (agar) containing fresh blood. Such cultures they have propagated through over twenty generations. The growth of the flagellates was luxuriant, their virulence remaining altogether unaltered. Some cultures remained living and infective for nearly a year. Not only general biologic problems so far inaccessible on account of the impossibility of cultivating unicellular protozoa, will receive an immense assistance by this discovery, but practically, too, it will have great importance. The near relationship of the different trypanosoma species makes it possible that the parasites of the murderous diseases caused by them can be studied in the same way, and that means may be found (inoculation, immunization) to counteract them. The paper is one of the most valuable portions of the many important articles of the volume.

About the Presence of the Virus of Rabies at the Site of the Bite in a Child Dead from Hydrophobia.—D. PACE (*Annales de l'Inst. Pasteur*, 1903, No. 4).—The number of cases of hydrophobia reported in which premonitory symptoms had appeared in the shape of pains at the site of the wound are numerous. How to account for this was not clear, and the explanation that it was due to auto-suggestion was generally accepted. Pace examined the wound or scar in a case of hydrophobia, and the medulla, salivary glands and portions of the skin, by subdurally inoculating rabbits. While the skin proved entirely avirulent in all places examined, the animals inoculated with emulsions from the scar died of

typical rabies. This result is very surprising, and ought to be confirmed by control investigations wherever the opportunity offers itself.

Bacteriologic Examination of the Blood During Life in Scarlet Fever with Special Reference to Streptococcemia.—L. HEKTOEN (*Journal American Medical Association*, March 14, 1903).—The recent advertisements of a treatment of scarlet fever by anti-streptococcus serum have led to many misconceptions. Scarlet fever cannot be cured by it, and we are as yet not fully informed to what degree secondary streptococcus infection takes place in cases of scarlatina. Much more to be regretted is the inclination to consider streptococci, in some way or another, acting etiologically in scarlet fever. From a number of very careful observations Hektoen comes to the following conclusions: That streptococci may occasionally be found in the blood of mild, uncomplicated cases; that they are more frequent in the blood of more severe and protracted cases; that even in grave cases of this kind recovery occurs; and, finally, streptococci cannot be demonstrated always, even in fatal cases. The theory that scarlet fever is a streptococcus disease does not receive any support from this work. A noteworthy point of Dr. Hektoen's paper is that all through it the famous Class coccus is not mentioned.

Sur le Mode de l'Action des Antitoxines sur les Toxines.—J. BORDET (*Annales de l'Inst. Pasteur*, 1903, No. 3).—The contents of this important paper, which openly initiated the fight against the basal principles of Ehrlich's side-chain theory, can only be given in a concise way and cannot do justice to the subject. As is known, antitoxins act directly on the toxins, not on the organism carrying the latter, and the question has been whether this action asserted itself after the law of constant proportions or varied according to the conditions obtaining. Previously Bordet had intimated that the union of antitoxin and toxin might resemble the process of staining. It was then shown that a serum containing hemolytic substances would dissolve a much greater proportion of corpuscles if they were added at once, than when these corpuscles were added in small fractions. Bordet showed that a double amount is dissolved, so that in mixing hemolytic serum and corpuscles twice the quantity of amboceptors is bound, that is necessary for solution. But it was for Ehrlich and Morgenroth to demonstrate that these relations varied greatly, and that under certain circumstances a hundred times the solvent quantity of amboceptors can be combined with the corpuscles. In bacteriolytic sera this variation goes still farther, and 1000 times the solvent dose has often been found to be absorbed by the bacteria. Thus we see that the red corpuscles can anchor many more amboceptors than are necessary to destroy them. Eisenberg and Volk found the same relations for agglutinin, and Pfeiffer demonstrated them for cholera vibrios. Ehrlich has established the law of constant proportions for the action between antitoxin and toxin. Bordet, however, conceives it as similar to the relations obtaining between amboceptors and receptors; the action is determined by conditions of the equilibrium and "Massenwirkung." A proof for this is found by him in the observation that if 100 toxic units are added to 99 antitoxic units and injected into an animal, the animal does not die from the effect of the one not saturated toxic unit. Ehrlich's toxin investigation (the toxin spectrum) explains this fact readily, but Bordet believes that each toxin-molecule is possessed of five binding groups: if they are free, the toxin acts as a toxin; if they are combined with antitoxin, it is harmless; if only some are combined, the toxicity is attenuated. Since the susceptibility of different animals to the same toxin varies greatly, Bordet can easily understand why antitoxin-toxin mixtures are harmless for some animals and fatal for others. By very ingeniously arranged experiments the author tries to bring the analogous evidence for the

action of complements and anticomplements. He concludes that in them the law of constant proportions obtains as little as in the relation of antitoxin to toxin.

A Study of the Etiology of Yellow Fever.—(Yellow Fever Institute. Bulletin No. 13, Washington, 1903).—The working party sent out by the Treasury Department to Vera Cruz, Mexico, consisting of H. B. Parker, George E. Beyer and O. L. Pothier, gives in this report the results they have arrived at so far. The transmission of the disease by mosquitoes led them to believe in its sporozoic character; the search made for parasites in the human body was negative, as could not be otherwise expected after the work of Reed and Carroll. Then they directed their attention to the *stegomyia fasciata*, the carrier of the disease. Mosquitoes were allowed to bite yellow-fever patients and then killed and examined in certain intervals. After two or three days they found in their stomach great numbers of small fusiform bodies, that after a process of conjugation penetrated the wall of the stomach as zygotes and transformed into oocysts, that later on in their turn break up into sporoblasts. The latter migrate in the direction of the least resistance, that is the thorax, of the insect and thus reach the salivary glands. Arrived here the sporoblasts produce each a number of infinitesimally small sporozoites; these find their way into the lumen of the gland and are discharged during the act of biting. In its general course the development of this parasite in the mosquito is the same as that of the malaria parasite. It is illustrated by photographs, that allow of adequately judging about the described phenomena. Among a great number of mosquitoes examined, the parasite was never found; mosquitoes, biting healthy persons, never show them. But in any mosquito feeding on a yellow-fever case, they are, after a certain time, to be found. Persons bitten by such mosquitoes develop yellow fever, as was proven by actual experiment. The period necessary for the whole exogenous development of the parasites is not mentioned by the authors, but we may assume that it agrees with Reed's statement, that a mosquito, fed on yellow-fever blood, cannot transmit the disease within a shorter time than thirteen days.

So far the only evidence that this parasite is the etiologic factor in yellow fever is given by the observations that mosquitoes not infected by it do not cause yellow fever, that, on the other hand, those that contain it produce the disease by their bite, and that the *stegomyias* feeding on yellow-fever patients always show the described phenomena. From the moment the sporozoites are transferred to the human organism, they disappear, and we know through Reed and Carroll, that the organism present in the latter is so small that it passes through certain filters that do not permit the escape of the smallest objects visible with our highest microscopic powers. The assumption, then, must be that the endogenous cycle of the parasite comprises only infinitesimally small organisms, which, to become visible, must enter the mosquito's body. That such a thing can be imagined and may prove to be true teaches the inoculation period of malaria, in which nothing of the parasite can be discovered during its whole course, a fact that has suggested to many observers the probability that the sporozoites of the malaria-coccidium undergo a process of division, which reduces them, for a certain time, to dimensions not to be perceived. If the constant and exclusive presence of the myxococcidium *stegomyiæ* (this is the systematic appellation) in mosquitoes fed on yellow-fever blood shall be confirmed, these researches will open a new field for experiment and speculation. This confirmation is ardently looked for.

Die Paraganglien.—ALFRED KOHN (*Archiv fuer Mikrosk. Anatomie und Entwickl. Gesch.*, Vol. 62, Heft 2).—The nature and origin of the so-called

chromaffine cells has lately very often been the subject of discussion without a definite opinion being established. In a very extensive study A. Kohn has come to the conclusion that these cells form a specific system of tissue, genetically and anatomically connected with the sympathetic. Their peculiar position is based on their origin from the embryonal tissue of the sympathetic ganglia. At a certain stage of the embryonal development a differentiation of the cells takes place that leads to more or less circumscribed and larger and smaller masses of chromaffine cells appearing as multiple foci within the ganglia of the sympathetic nerve and of the plexuses. Partly these formations remain in continuity with the ganglia; partly, and especially in the large plexuses over the abdominal aorta, they grow out of them and form independent structures; Kohn calls them paraganglia and gives the same name to those agglomerations of cells that retain the position within the ganglia. This form of cells is characterized by the intense brown stain that their protoplasm shows in contact with solution of chromates. The main mass of these chromaffine bodies is found first as a single, and later as a double mass on the ventral surface of the abdominal aorta, from which proximal and distal portions are detached and appear as isolated structures. In all mammals the bodies occur as in man, as well as independent paraganglia as in the form of paraganglia situated within sympathetic ganglia. Embryologic investigations, furthermore, allowed the author to establish that the paraganglion aorticum abdominale sends out processes into the suprarenals by which they are enveloped and form the medullary cells of this organ. In the rabbit this connection remains intact until late in life, so that in this way the identity of the medulla of the suprarenals with the paraganglia is established the solution of a problem that has foiled the endeavors of so many investigators. The so-called carotid gland (paraganglion intercaroticum) belongs also to the class of chromaffine bodies; it is found in all mammals and in birds, but not in the lower vertebrates. While in men the paraganglia undergo retrogressive changes during childhood, they are permanent organs in the other mammals. Their physiologic meaning is uncertain, intravenous injections of their extracts increase the blood pressure; subcutaneously administered they produce glycosuria. The removal of the chromaffine substance is said to cause death in mammals. Tumors can arise in these structures, the cells of which are again chromaffine. Many of the so-called accessory suprarenals are probably of chromaffine nature. A beautiful orientation about these interesting structures is easily obtained by eviscerating an animal and covering the retroperitoneal space with cotton saturated with a 3.5 per cent. bichromate solution. After some hours all of the paraganglia appear in distinct contrast by their deep brown color with the yellow-stained surrounding tissues. Clearing with some glycerin makes the picture still plainer.

A New Cholera Vaccine and Its Method of Preparation.—RICHARD P. STRONG (*American Medicine*, Aug. 15, 1903).—Haffkine's method of vaccination against cholera has proved unreliable, and must be objected to on account of the serious disturbance it causes in the inoculated subject. The author was desirous of finding a better and less obnoxious way to this end, and succeeded, under Wassermann's guidance, in working out a vaccination method that is based on observations formerly made by Brieger, Wassermann and others. If bacteria are killed by heat and then allowed to disintegrate by autolysis, free bacterial receptors are found in the resulting solution. By means of such fluids a very active immunity can be produced without exposing the subject or animal to any discomfort or danger. The immunity thus obtained appears very quickly and lasts for a considerable period. Cholera-vibrios seem to lend themselves readily to this procedure; with vaccine thus prepared, Strong has immunized animals with absolute certainty. No local or general reaction follows the injections of the material if un-

necessarily high doses are not used, as the author has found by experience on himself. Experiments with immune serum showed that vaccine prepared from virulent bacteria neutralized much more serum than that obtained by avirulent cultures, a fact that must be explained by the greater number of receptors in the virulent form. Here Strong comes to the same conclusion that Pfeiffer has already drawn from his investigations.

Investigations About the Absorption of Tetanus Toxin.—V. MORAX and A. MARIE (*Annales de l'Inst. Pasteur*, vol. xvii, p. 335).—In a previous publication the authors had experimentally demonstrated that in tetanic animals the peripheral nerves absorb the tetanic toxin and carry it, step by step, to the nerve cells, a fact that had been assumed on the basis of clinical observation for a long time. The present paper deals with the search for those of the different nerve fibers that serve specifically the transmission of the toxin. For the horse, monkey and dog it was found that motor fibers as well as sensory and sympathetic fibers readily absorb the substance, and that no difference can be found in this respect between them. The greatest amount of toxin was found in the masseter muscles of the horse, which accounts for the constant and early appearance of trismus in this animal. The optic nerves were always found free from toxin; they explain this by the theory that the optic nerves are only a prolongation of the brain, and not nerves like the others. In the medullary and cerebral centers, as is well known, the toxin is not found because it is combined with the nerve cells. The question that is not yet solved is, what part these different centers play in the production of the motor symptoms of tetanus.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Repeated Cesarean Section with Transverse Fundal Incision.—FLATAU (*Centralblatt fuer Gynaek.*, No. 29, 1904).—Flatau performed conservative Cesarean section by means of the transverse fundal incision after Fritsch twice within two years on the same patient, both times with complete success. At the time of the second operation the author observed that the scar in the abdominal wall was firm, that the peritoneum of the abdominal wall, of the uterus and the intestines was perfectly smooth and no adhesions had formed anywhere. The scar of the uterine incision was hardly visible, and the uterine wall of normal thickness.

This case clearly demonstrates the advantages of the transverse fundal incision.

Ovarian Transplantation and Reconstruction of the Fallopian Tubes.—FRANKLIN H. MARTIN (*Chicago Medical Recorder*, July, 1903).—The author reports the detailed histories of the following two cases:

I. In a woman of about twenty-nine years both appendages had been removed for dysmenorrhea, the operator not having communicated to the patient previous to the operation the fact that it would be necessary to remove these organs. Upon learning that both ovaries had been removed she was very much horrified because she was engaged to be married. She refused to marry and began to look for a surgeon who would transplant other ovaries into her pelvis. Two years later the author performed on her the following operation: The re-

mains of the fallopian tubes were reconstructed so as to form two pervious oviducts. Incisions were made at both angles of the uterus, and the endometrium stitched to the peritoneal cover. Then the broad ligament was split beneath the end of the amputated tube. To the denuded area a portion of an ovary, taken from another patient, was attached by means of sutures. The same procedure was carried out on the opposite side of the uterus. The two portions of healthy ovarian tissue, transplanted in this manner, had been taken from another patient in whom laparotomy was performed for an impacted retroflexion. The operator having obtained the patient's consent previously, he removed one-third of each ovary from this woman. The specimens were kept in hot salt solution for preservation. Immediately after completion of the first operation the anesthesia of the other patient was started.

II. This same operation was performed on a patient who suffered from the usual symptoms of artificial menopause. She had previously submitted to two laparotomies—one two years previous to this date, in which one of her appendages was sacrificed; another a half a year later, in which the appendages of the other side were removed.

In both cases the uterus was found atrophied. Both patients made an uninterrupted recovery. At the time of the report nine and five months, respectively, had passed since the operation. Menstruation had not reappeared, discharge of mucus, however, was observed appearing at intervals of about four weeks. Both patients complained of attacks of rather severe pain, occurring about once a month, on one occasion described by the patient as "almost unbearable." Nevertheless, the writer considers his results satisfactory and promising. In his opinion this new operation will make it possible to relieve, in a large number of cases, the nervous symptoms following premature menopause, and demonstrates the possibility of re-establishing the menstrual and child-bearing function in women who have been obliged to sacrifice their ovaries and tubes.

Uterine Cancer and Pregnancy.—S. RECASENS (*Revista de Especial. Medic.*, June 20, 1903; rev. *N. Y. Med. Jour.*, August 15, 1903).—The sole possibility of cure in uterine cancer lies in total hysterectomy, performed before the parametrium and lymphatic system has been invaded. During the first four months of pregnancy the operation may be performed equally well by the abdominal or vaginal route. Abdominal hysterectomy is to be preferred, not only because of the greater facility of hemostasis, but also because extirpation of the parametrium and lymphatic ganglions is practicable by this method. During the fifth and sixth month the operative indications are the same as in the first four months because the life of the fetus is incompatible with the safety of the mother and it must be sacrificed. The abdominal route should be chosen. Abdominal hysterectomy during the first six months should be practiced without opening the uterine cavity. In the last three months the operative indication is also immediate; but Cesarean section followed by hysterectomy should be performed in the hope of saving the fetus. When the carcinoma has invaded the parametrium and the lymphatics, no matter what the period of gestation, all hope of a radical cure should be abandoned and the entire attention directed to the care of the fetus. In inoperable cases the period of viability of the fetus should be awaited, when Porro's operation should be performed, this being delayed as long as is compatible with the mother's condition. When, in inoperable cancer, if labor has commenced, if the bag of waters is intact, the indication for Porro's operation still holds good, and if the fetus is imprisoned the forceps should be applied after preliminary incisions in the external os.

The Value of Leukocytosis in the Diagnosis of Gynecologic Diseases.—WALDSTEIN and FEILNER (*Wiener Klinische Wochenschr.*, July 9, 1903).—All suppurations within the connective tissue surrounding the uterus will produce distinct leukocytosis, especially parametritis with deep-seated abscesses. As regards inflammatory processes in the uterine appendages, the authors observed that in all pus cases an increase in the number of the leukocytes was present during the acute stage, continuing even after the fever had subsided. The leukocytosis may later disappear, even when there is a pus sac still present. A second question studied by the authors was the relation between leukocytosis and gynecologic diseases in general. Leukocytosis occurs after severe hemorrhages; in cases of myoma, it is only observed if the hemorrhages follow each other at short intervals.

Adenomatous Changes in the Mucosa of Uterus and Tubes and Their Pathologic-Anatomic Significance.—R. MEYER (*Virchow's Archiv.*, vol. 172, part 3) —Adenomatous endometrium can sometimes be found deeply invading the muscular tissue of the uterus. As the result of the chronic irritation (especially in cases of gonorrhea and tuberculosis) the mucosa of the tubes may undergo adenomatous changes and penetrate into the muscular layer of the tube. Meyer pronounces these changes to be post-fetal formations, and concludes that this invasion of the muscular layer by adenomatous mucosa cannot be considered carcinoma, the process being one of "infiltration" and not "destruction."

Condition of the Endometrium in Cases of Uterine Myomata.—TH. S. CULLEN (*Jour. Am. Med. Ass.*, August 8, 1903).—From the gross and histologic examination of nearly one thousand specimens the author draws the conclusion that, where the tubes are normal and where no sloughing submucous myoma is present, the uterine mucosa will be perfectly normal, or show simple mechanical changes. These findings are of considerable practical importance. The absence of complications in the tubes and of a sloughing myoma will permit of a conservative myomectomy. Opening of the uterine cavity in the course of the operation will involve but little danger of infection.

Determination of Sex.—A. LITKENS (*Obsrenie Psychiatrii*, April 1903; rev. *Amer. Med. Jour.*, August 22, 1903).—This evasive problem has found a rather simple solution at the hands of the writer. He transfers the entire question to the lowest form of life, where the conditions are much less complex. If we study the propagation of bacteria, for instance, we find that it is of two kinds: In a warm, moist, nutritious medium they propagate by division or budding, while in unfavorable conditions they multiply by means of spores which do not require any nutrition for a long time, and are generally able to resist cold, heat, dryness, etc. It would seem therefore, according to the author, that when the parental organism is stimulated by privations incident to a struggle for life a better adapted offspring is produced than at other times. The same principle he applies to the higher animals and to man, asserting that whenever the parents are in a condition of high nervous tension, conception will result in male issue as a better adapted form; on the other hand, in times of ease, relaxation and comfort, conception will yield female issue. A series of observations is adduced to confirm these statements.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Indications for Gastric Lavage in Diseases of Infants.—PRONEAU (*These de Paris, Arch. de Med. des Enf.*, August, 1903) thinks that gastric lavage is not indicated at the outset of cholera infantum, except when the phenomena of collapse are not marked. It is indicated in acute gastro-enteritis with predominance of febrile gastric symptoms. It not only empties the stomach, but also diminishes the intensity of the general toxemia. It is furthermore indicated in the acute exacerbations of chronic gastro-enteritis, also in chronic indigestion. It may even give good results in intestinal irrigation. It is contraindicated in collapse, in dilatation of the stomach and in athrepsia.

Pneumonia and Pleurisy in Early Life Simulating Appendicitis.—GRIFFITH (*Jour. A. M. A.*, August 29, 1903) reports several cases (and has collected several others from the literature) where the early symptoms have pointed strongly to appendicitis. Marked pain in the right abdomen, with tenderness, rapidity of pulse, and respiration and elevation of temperature, with vomiting and constipation in some cases, usher in the disease. Examination of the chest at this time is frequently negative, but in forty-eight, seventy-two, ninety-six hours the classical signs of pulmonary consolidation show themselves, and the abdominal symptoms gradually disappear. The subsequent course of the disease is then the ordinary one of pneumonia. It is apparent that errors in diagnosis under these conditions may easily be made.

Griffith insists upon the necessity for careful examination of the lungs in children presenting these symptoms.

Additional points which may aid in the establishment of the diagnosis are:

- (a) Acceleration of respiration out of proportion to pulse-rate or pyrexia.
- (b) Relaxation of the abdominal walls between respiration.
- (c) Diminution or disappearance of the abdominal tenderness on deep pressure with the flat of the hand.
- (d) Possible presence of cough.

Two Anomalous Forms of Whooping-Cough.—JACOBSON (*Arch. de Med. des Enf.*, August, 1903) calls attention to the fact that during epidemics of pertussis, abortive cases occur, presenting all of the symptoms *except* the characteristic whoop. These cases would oftentimes not be recognized if there were no epidemic to arouse suspicion. They are dangerous from the view-point of prophylaxis, because unless recognized they aid in the dissemination of the contagion, thus favoring the extension of the epidemic. They are dangerous to the patient because they may be the starting-point of chronic pulmonary lesion.

A second abnormal form is the so-called "dyspeptic" one. This is characterized by the predominance of gastro-intestinal manifestation, loss of appetite, nausea, vomiting and coated tongue, mucous diarrhea, etc.; by attacks of fever accompanying these manifestations, by marked emaciation, and profound depression. These symptoms disappear with the cessation of the whoop. For their treatment a strict mild diet is indicated.

Hydrotherapy in Pediatrics.—BORTS (*Cleveland Medical Journal*, August, 1903) believes that the good effect of water in the treatment of children's diseases is not sufficiently recognized by the profession. He finds that hydro-

therapeutic measures are very easily carried out in private practice. It is not necessary to use very cold water in the treatment of children's diseases, as the same results can be attained with the bath at 90° for the child, that would require one at 70° for the adult. So too with the duration of the bath. Ten or twelve minutes is long enough for a child, in many cases six to eight minutes, instead of the fifteen or twenty minutes' duration in the adult. He notes particularly the soothing effect on children suffering with fever. In chronic diseases characterized by exhaustion he has had good results from the use of the *hot* bath, particularly in the later stages of long drawn-out cases of typhoid. Internally, washing of the stomach and colonic irrigation are also of great value in the treatment of cholera infantum and gastro-intestinal diseases. For the colonic irrigations he prefers a normal salt solution.

Treatment of Acute Gastro-Enteritis of Nurslings.—HUTINEL (*Rev. Mens. des Mal. de l'Enf.*, August, 1903) says that there are three therapeutic indications:

1. To remove the source of the poisons which form in the intestine.
2. To prevent the pathogenic germs in the intestinal tract from finding a medium favorable to their propagation.
3. To restore to the organism the water which it has lost.

He considers that these indications can best be met by the withdrawal of *all* food, and the giving of simple sterile water. Where there is much tendency to vomiting, the water should be given cold; if there be algidity, hot water should be used. Small quantities should be administered frequently, rather than large amounts at longer intervals—a dessert or a tablespoonful every fifteen or twenty minutes. For infants of five to six months the total quantity should not exceed 1½ pints in twenty-four hours; for older children larger amounts may be given. This treatment must not be continued too long—not over twelve to fifteen hours for a young infant, if any improvement show itself; for older children it may be continued twenty-four to forty-eight hours.

Where there is very persistent vomiting, gastric lavage is of service at times. This is especially valuable if there be associated thrush, when a mild alkali may be added to the lavage water.

For intestinal antiseptics, the author relies on broken doses of calomel, used at the outset only. Castor oil may be used if the stomach will stand it.

Colonic irrigation is of value at times, using salt solutions or mucilage; never boric acid, on account of its poisonous effects on infants.

For tympanites, warm cataplasms are of great value.

For profound depression, hypodermoclysis of salt solutions. Bismuth is sometimes of value; opium may very rarely be cautiously added.

For hyperpyrexia, warm baths.

Feeding must be very gradually commenced, using dilute milk, koumyss or buttermilk, with the addition of wheat flour.

[It is noteworthy that Hutinel, an undoubted authority of the French school, makes no mention of alcohol in the treatment of this condition; that he relies more on the withdrawal of all food and the substitution of sterile water, than upon drugs. The so-called intestinal antiseptics, except calomel, he has discarded as useless.—ED.]

Typhoid Fever in Children.—DUPAQUIER (*New Orleans Medical and Surgical Journal*, August, 1903) calls attention to the fact that typhoid fever is often unrecognized in very young children. This is largely due to the fact that the symptoms in children are often peculiar and misleading. The pulse-rate is apt to be very high, the stools are not characteristic, and tympanites is often absent. The roseola is not always present.

The spleen is usually palpable, but not very greatly enlarged.

The nervous symptoms are apt to be pronounced.

The onset is often atypical, and may simulate pneumonia, meningitis or appendicitis.

The Widal reaction is of the very greatest value because of these peculiarities, enabling many cases to be diagnosticated which might otherwise pass as simple gastro-enteritis.

The author believes that the diazo reaction, when positive, is a point in favor of the diagnosis, though, of course, not a pathognomonic one.

Relapses are more common than in adults.

With reference to treatment, the author relies on careful nursing, absolute rest and liquid diet, though at times these indications are hard to fulfill.

Dupaquier also insists upon the relation of typhoid to tuberculosis. It is probable that this relation is, however, merely indirect, the lowering of the body resistance by the typhoid being the great source of danger.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Congenital Dislocation of the Radius.—CHAS. A. POWERS (*Jour. Am. Med. Ass'n*, July 18, 1903).—A child thirteen years old had a left upper extremity much shorter than the right, with its forearm in extreme pronation, and supination possible to only a very slight degree, flexion to 90 degrees being possible under force. The extensors of the hand are very weak, and the fingers are held slightly contracted in flexed position. The elongated radius is dislocated upward, forward and outward, lying on the outer and anterior aspect of the humerus. Two cases of this condition, with their operations, are given in detail, but on account of poor results, operation was not strongly advised in the author's case.

Sunshine vs. X-Rays and Finsen Rays in Tuberculosis of Joints and Bones.—DE FOREST WILLARD (*Jour. Am. Med. Ass'n*, July 18, 1903).—Sunlight, fresh air, good food, and fixation of the affected joints remain the most important agents for contesting tubercular infection. Direct exposure to sunlight of the whole body is essential, the head and eyes being protected by green, but the affected parts may be covered with blue screens, as they secure easiest passage of the actinic rays. Concentrated sun's rays are recommended by Finsen, Butler, *et al.*, and are valuable bactericidal agents, but the direct sun is most effective. The actinic rays and x-rays are apparently helpful, but it will take several years of experimenting to put the treatment on a determined basis.

The Correction of Deformity at the Hip—Best Methods and Best Positions.—VIRGIL P. GIBNEY (*N. Y. and Phil. Med. Jour.*, July 25, 1903).—After hip disease the deformity from faulty bony ankylosis is correctable either by breaking up the adhesions in the old joint or by doing Gant's subtrochanteric osteotomy. Relapses after either operation are not uncommon. The "centric" operation gives the greatest correction, but is likely to fire the old disease, while the Gant excentric operation is away from diseased foci, and usually gives all of the correction wanted, so it is the author's favorite. The straight position for the ankylosed hip is considered better than that of slight flexion.

Two Cases of Congenital Elevation of the Shoulder.—R. A. HIBBS and H. LOEWENSTEIN (*Med. Record*, August 1, 1903).—One case is dislocated upward four inches and at the middle of the posterior border articulated by means of a bony bridge five and one-fourth inches long and three and one-fourth inches broad, with the last cervical and two upper dorsal vertebra, the joint being pivotal.

The second case is due to a spastic condition of the muscles of the shoulder. The literature is reviewed and a classification is attempted, placing in the first class cases with bony bridges, in the second, cases with absolute absence of some shoulder girdle muscles, in the third class cases with long turned-over supraspinous portions of the scapula, and in the fourth class cases with no bony overgrowth, with scapula normal or smaller, with shorter or otherwise defective muscles.

Acute Epiphysitis Subsequently Simulating Congenital Hip-Misplacement.—J. P. LORD (*Jour. Am. Med. Asso.*, August 1, 1903).—The child, two years old, had pneumonia six months previous, when she had developed an abscess over hip which discharged, but soon healed. On examination the deformity was typical of congenital dislocation, there being no pain and the limb was freely movable in all directions save abduction, which was somewhat restricted. It was considered a dislocation and an attempt made to reduce by Lorenz method, which failed, and an open operation was done, disclosing the real condition, which was an entire absence of the head and neck. No attempt was made to relieve the condition at the operation.

Contribution to the Pathologic Anatomy of Painful Flat Feet.—M. KIRMISSON and BIZE (*Revue d'Orthopedie*, January 1, 1903).—Two fifteen-year-old children had the Ogston operation performed at the mediotarsal joint, and the excised portions of the astragalus and scaphoid bones were examined. Macroscopically there was some erosion of the joints and some injection of the bone. Microscopically there was cellular infiltration, as one would expect from a chronic irritation. That portion of the bone beneath the unused part of the joint was rarefied. The pain of the flat foot was attributed to this bony change, and it is taken as a further proof that Gosselin is right in considering metatarsalgia not a primary trouble, but secondary to the joint changes which follow breaking down of the anterior arch.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

On the Pathology and Bacteriology of Landry's Paralysis.—BUZZARD (*Brain*, spring, 1903).—This paper consists of, first, a brief critical review of our present knowledge of the bacteriology and pathology of Landry's paralysis. Second, a record of an investigation of a fatal case of the disease, including (a) the isolation from the blood of a micrococcus which does not conform with any organism previously described; (b) its discovery in the dura mater of the patient; (c) its inoculation into rabbits. It is assumed that Landry's paralysis is a species of acute intoxication of the nervous system. Based upon this assumption the following questions arise: First, is it a specific disease due to one micro-organism? second, if there is a specific micro-organism, can the same symptom complex be also produced by other organisms such as the bacillus of influenza,

of typhoid fever and of the gonococcus acting vicariously? third, is the same condition capable of being brought about by some poison or poisons as result of a disordered metabolism?

In other words, is it ever a sign of auto-intoxication? The fact that none of the above questions can be accurately answered, means that Landry's paralysis, according to our present knowledge, is a symptom complex and not a disease. The case which this paper is based upon is that of a man thirty-two years old. Fourteen days before admission he noticed numbness and burning in his upper and lower limbs. Stiffness and heaviness in his hands and feet followed three days later. The paralysis spread upward accompanied by shortness of breath and difficulty in swallowing. He died in eighteen days.

Nervous System.—The vessels of the piaarachnoid were all dilated and filled with blood. In some sections the red corpuscles had escaped from the capillaries and had formed minute scattered hemorrhages. The vessel walls showed no evidence of disease. A few foci of round cell exudation were found. The obvious deduction from these findings is that the morbid changes were very slight in degree of intensity, rather widely distributed and toxic in character. Cultures were made from the tissues and blood and the tubes were incubated at 38° C. The tubes inoculated with blood from the spleen and cerebro-spinal fluid remained sterile. A blood-agar culture of the coccus obtained from the heart's blood was injected into a number of rabbits. In one of these a non-fatal, general paralysis took place one week after inoculation. The central nervous system of this rabbit showed the following: 1st, marked engorgement of the vessels of the meninges of the cord; 2d, punctate hemorrhages; 3d, a few patches of leucocytal infiltration in parts of the piaarachnoid; 4th, diffuse marchi degeneration in the white matter of the cord and especially in the peripheral zone; 5th, a few degenerated fibers in the sciatic nerve; 6th, complete absence of organisms from the cord meninges. No cell changes by Nissl. The author notes the following conclusions as the result of his experimental studies: 1st, a micrococcus was isolated in pure culture from the blood of a patient who died of Landry's paralysis; 2d, an organism indistinguishable from that which was cultivated was found in large numbers in the external parts of the spinal dura of the same patient; 3d, a subdural injection of the cultivated coccus into a rabbit produced after some days a rapidly-spreading palsy; 4th, the same organism was discovered in the dura mater of the rabbit and isolated in pure culture from its blood; 5th, the changes in the nervous system in both the patient and the rabbit were of the kind produced by toxins, and in neither case was the microbe to be demonstrated in the nervous structures themselves nor in the piaarachnoid. Buzzard does not claim that all, nor even many, cases of Landry's paralysis are due to this organism, but he brings forward this study to pave the way for further investigation into obscure organisms at present unknown to us, which may exert their influence in some such way as this case illustrates.

Upon the Relative Affection of Muscles in Progressive Bulbar Paralysis.—COLLIER (*Revue of Neurology and Psychiatry*, August, 1903).—The object of this paper is to point out the early affection of the suprahyoid and infrahyoid muscles in many cases of progressive bulbar paralysis and to suggest that the dysphagia and dysphonia arising in the course of the disease are referable to the atrophic paralysis of these muscles rather than to the affection of the intrinsic muscle of the palate, pharynx and larynx. The various muscles in ten fatal cases of bulbar palsy were examined. Eight of these were of the amyotrophic lateral sclerosis type. The nature of the anatomical changes did not differ in the two types studied. As a result of this investigation, Collier believes that bulbar palsy is primarily and chiefly an affection of the hypoglossal nucleus and of the morphological continuation backward into the first and second cervical

segments, the ventral horns of which contain cells which supply the supra- and infrahyoid muscles.

A Contribution to the Study of the Pathological Anatomy of Chorea.—KOPCZNISKI (*Rev. Neurologique*, No. 15, 1903).—This is the study of a fatal case of chorea in a girl seventeen years old. As the number of cases of chorea of the infectious type which have been studied pathologically is very limited, this communication is an important contribution to the knowledge of chorea. The microscopic study was very thoroughly done, and the findings were practically negative, with the exception of a slight chromatolysis in certain cells of the cortex of the brain. This negative result confirms the results of many previous investigators. There are two prevailing opinions in regard to the pathogenesis of chorea: one is that the principal cause of the disease lies in a lack of equilibrium, either congenital or acquired, of the central nervous system; the other is that there is some infection of the organism by a pathological agent, possibly of the type of the organism that causes rheumatism, which produces a change in the quality or composition of the blood which acts especially upon the nervous system.

The Daily Rhythm of Epilepsy and Its Interpretation.—L. PIERCE CLARK (*Med. News*, July 18, 1903).—This is a study of the disease rhythm or periodic variation of epileptic seizures, based upon one hundred and fifty thousand convulsive attacks. Three plotted diagrams illustrate the article, and a fourth, by combining the features of the other three, shows graphically the author's conclusions, which can be thus summarized: This study of one hundred and fifty thousand seizures shows that there is a more or less definite rhythm in the epilepsies. In the early evening, noon-time and in the early morning, which roughly divides the twenty-four hours of the day into eight-hour periods. There are also smaller or secondary rhythms. The interpretation of the rhythm is explained on the basis of cerebral fatigue and the accumulation of waste products at these periods, which produce auto-intoxication, and which, in turn, exhibits itself in seizures during light sleep and during the day when the loss of cerebral inhibition is great. Secondary and contributing factors are manner of living, diet, exercise, occupation, sedatives and the character of the epilepsy.

A Contribution to the Study of the Blood in Manic Depressive Insanity.—FISHER (*American Journal of Insanity*, No. 4, 1903).—A preliminary study of ninety-two blood counts to establish the true condition of the blood in manic depressive insanity. The results of previous writers have varied so much that many different conclusions have been recorded. Fisher notes the following results: (1) There are no pathognomonic blood changes in cases of the maniacal phases of manic depressive insanity. (2) Anemia is not a causative factor nor always an accompaniment of this psychosis. (3) The hemoglobin and red cells are frequently if not always increased during the attack of excitement, for a leucocytosis is an almost constant accompaniment and probably a result of psycho-motor excitement. (4) Increase of weight accompanies mental improvement.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

Constitution of Normal Prostatic Secretion.—STERN (*Am. J. Med. Sciences*, August, 1903).—The author considers the physical and chemical properties and constitution of the normal prostatic secretion together with its morphological elements. It is as yet impossible to single out the *specific* importance of the prostatic fluid, but we will not be very far from the truth in assuming that apart from an eventual specific chemico-enzymic potency, the secretion of the prostate gland is of importance in overcoming the quiescence of the spermatozoa, and in effecting that state of osmosis in the seminal fluid which is essential to fecundation.

The Toxic Actions of Urotropin.—COLEMAN (*Med. News*, August 29, 1903).—Urotropin is the most potent and reliable urinary antiseptic we possess. Its diuretic action, though marked at times, is not constant. As a solvent of uric acid and uratic calculi, it has not fulfilled the expectations of its advocates. Casper claims that it relieves phosphaturia in a remarkable manner.

In conclusion, the author says:

1. That the administration of urotropin may be, but is only rarely, attended by toxic effects.

2. That toxic actions (especially strangury) occur with comparative frequency if the urotropin is not properly diluted.

3. That the development of toxic effects is not always, or necessarily, correlative with the size of the dose of urotropin.

4. That individuals vary greatly in their susceptibility to the action of urotropin.

5. That urotropin has been known to produce the following toxic effects:

(a) *Minor Toxic Actions.*—(1) Irritation of the stomach; (2) diarrhea and abdominal pain; (3) Measles-like rash; (4) headache and ringing in the ears; (5) renal irritation, sometimes with albuminuria.

(b) *Irritation of the Bladder.*—(1) Strangury, the most common of the toxic effects; (2) irritant action on raw surfaces in the urinary passages.

(c) *Hematuria and Hemoglobinuria.*—Eight positive cases of hematuria, following the administration of urotropin, and one doubtful case, have been reported. In one case hemoglobinuria was associated with hematuria.

6. That the more important of these toxic actions have been produced by intravenous injections of formaldehyde.

7. That the toxic actions of urotropin are due either (1) to special susceptibility to the action of formaldehyde, or (2) to interference with the usual disposition of formaldehyde in the body, or (3) to the liberation of an unusual quantity of formaldehyde.

8. That the toxic effects of urotropin generally disappear completely within a few days after withdrawal of the drug.

The Treatment of Hydrocele by the Method of Seton.—SKIRVING (*British Med. J.*, July 25, 1903).—A seton is advised for the treatment of simple hydrocele. Under aseptic precautions a sterilized trocar and cannula are thrust from behind forwards completely through the affected side of the scrotum. The trocar is withdrawn, and two or three strands of silk-worm gut are passed through the cannula and secured. The cannula is next partially withdrawn, and the hydrocele emptied.

The cannula is then completely withdrawn, and the two ends of the seton tied together in front of the scrotum. Moist antiseptic (boracic) dressings are now applied. Four or five days are probably sufficiently long to leave in the seton.

The Present Status of the Surgery of the Prostate Gland.—THORNDIKE (*Brit. Med. and Surg. J.*, August 13, 1903).—In summarizing his subject Thorndike says:

1. That no prostatic should be allowed to suffer for lack of proper treatment.

2. That there is still a place for the catheter in such treatment, and that many patients can be made comfortable and can be kept so by its systematic and proper use.

3. That all those patients who cannot be kept comfortable by palliative means are fit subjects for some operation.

4. That the time for such an operation is just as soon as the inadequacy of palliative treatment is demonstrated.

5. That the operation of choice is always prostatectomy, but that this operation can be properly offered to those patients only whose general conditions make them fair surgical risks, and that such is rarely the case after sixty to sixty-five years of age.

6. That to all other patients the Bottini operation can be fairly offered as one attended with little risk to life, a short convalescence, and a good prospect of such a degree of improvement as will at least do away with any further necessity for the systematic use of the catheter.

Preliminary Report of Five Cases of Renal Decapsulation.—BLAKE (*Boston Med. and Surg. Jour.*, August 13, 1903).—These cases were operated upon during the past nine months at the Boston City Hospital. Two of the five are, for the practical purposes of business and occupation, well. Two have died at intervals of four days and six months after the operation. One is not relieved. All of the cases were operated upon simultaneously by two surgeons, one decapsulating the right, the other the left kidney. The operation was always followed by a temporary diminution in the amount of urine, but this quickly disappeared, and within a few days the amount usually exceeded that passed before the operation.

Curability of Vesical Tuberculosis.—MOTZ (*Ann. des Mal. des Org. Genito-Urin.*, July 15, 1903).—From the observation of eight cases of bladder tuberculosis, which were cured, the author says that one should never be discouraged nor lose hope of cure, even in the presence of very grave cases of vesical tuberculosis. We should endeavor to improve in every possible way the general health of the patient in order to aid the organism in its fight against tubercular invasion. It must not be forgotten that primary vesical tuberculosis, if it exists, is very rare, and that the vesical lesions that we observe are almost always of renal or genital origin. We should, therefore, study well the state of the kidneys, of the prostate and of the seminal vesicles. If we observe the presence of a unilateral tuberculous nephritis, we should intervene immediately and suppress this source of constant reinfection of the bladder. A vesical lesion, even very grave, is not a contraindication of nephrectomy. We know of cures of tuberculous cystitis, even very grave, but we do not know, up to the present, of the cure of a tuberculous nephritis clinically diagnosed.

If the prostate and seminal vesicles are infected by tuberculosis, one should frequently examine them to see if their lesions tend towards cure, a very frequent thing. In the cases where they commence to soften we will prevent irremediable destruction of the vesical neck by suppressing them the most completely possible.

Prostatic Hypertrophy and Its Radical Cure.—WILLIAM P. HERRICK (*Medical Record*, New York, August 15, 1903).—The author concludes: (1) These cases must be judged more or less individually. (2) When chronic posterior urethritis and prostatitis exist, these should receive appropriate treatment, the catheter used to withdraw residual urine, and the result carefully watched. (3) In patients in whom operation has become too hazardous we must endeavor to improve their general condition, and, if necessary, do aspiration or perineal cystotomy under cocaine, endeavoring to prepare them for radical operation or alleviate their symptoms. Advanced arterio-sclerosis should also be carefully considered. (4) Our responsibility is in recognizing and properly urging operation when indicated; if it is refused, we have done our duty, and the patient must abide the issue with such means as remain. (5) Palliative operations should rarely or never be done, from their hazardousness and inefficiency. (6) Prostatic hypertrophy is now curable by means of an operation which, though serious, is not hazardous when undertaken in proper time and manner. Failure of palliative treatment, of course, gives hope alone through operation, but should be anticipated rather than persisted in. In general infection, especially if repeated, as in irritable cases, obstructive cases, unless promptly relieved by the sound and under observation, if residual urine is increased despite catheterization, or the patient's general health is being impaired, all indicate the time for operation. (7) Anatomically, and now surgically, the simple perineal is the direct and preferable route. Rarely suprapubic exploration or lithotomy may be advantageously added to it. (8) As statistics accumulate, we believe that radical cure may further anticipate the course of the disease.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Sclerodermic Type of Lupus Erythematosus.—WILFRED B. WARDE, M. D. (*Brit. Jour. Derm.*, August, 1903).—It is well known that Dr. Warde believes lupus erythematosus is not a disease in the strict sense of the term, but a pathological condition that may arise in the course of many perfectly distinct diseases of the skin. From his observations he concludes that there occurs in patients who suffer from diffuse scleroderma of the face and hands, or from Raynaud's disease, a form of atrophying erythema, marked by the preponderance of the atrophy over the erythema and by the rapidity with which the atrophy often ensues. These patients show a marked tendency to gangrene of the finger-ends, and to the appearance, on the hands, and often on the feet, of erythematous lesions, sometimes purpuric in character. Till more accurate information is forthcoming as to the relationship of lupus erythematosus and scleroderma, these cases can very well be provisionally known as the sclerodermic type of lupus erythematosus.

Recurrent, Progressive, Bullous Dermatitis in an Hysterical Subject.—CHARLES J. WHITE, M. D. (*Jour. Cutaneous Diseases*, September, 1903).—The subject of this peculiar affection is a young woman of twenty-three years. She was well until the twelfth year, when an inflammation of the bladder and bowels occurred without apparent cause. Afterwards because peritoneal infection her ovaries were removed.

In 1900 a bulla appeared on the left foot, which was nearly healed when another appeared a little higher up. This procedure continued with weekly

attacks of fresh bullæ, always higher up than their predecessors, until at the end of the year the middle of the thigh was reached, when the eruption ceased for two months. In 1901 the disease began on the fingers, appearing in weekly crops and spreading up arm to shoulder, also a few confined about the ankle. This attack lasted nearly a year, and then ceased for two months. It appeared again upon the abdomen and chest, on left side.

The subjective symptoms have been the same for the last two years, namely: stinging and burning are felt, the skin grows red, in two hours exudation begins, and in four hours the bulla reaches its maximum size, when the patient feels at her worst. She draws off the fluid, and feels weak and languid for the ensuing twenty-four hours. The whole cycle requires about seven days for its completion.

The neurological report was that of hysteria. The examination of urine and blood showed nothing abnormal. A small incipient vesicle was excised for histological study. The stratum corneum was thin throughout, and was segregated from underlying structure, ragged and torn, and in many places wanting.

The rete Malpighii is the most interesting feature. Where repair is taking place the superficial cells are greatly disorganized.

From this complete study the writer thinks he has to do with a rather extraordinary hysterical dermatitis. To discover similar cases in literature, search proved unsatisfactory.

Some Precancerous Affections of the Skin, More Particularly Precancerous Keratoses.—M. B. HARTZELL, M. D. (*Jour. Cutaneous Diseases*, September, 1903).—A small number of diseases of the skin, after existing for a longer or shorter period as benign affections, exhibiting neither the clinical or histological features of malignancy, terminate in epithelioma. This termination, although far from being the rule, occurs in a sufficient number of cases to exclude the probability of mere coincidence, and to warrant the application of the term precancerous to such affections. These diseases do not belong to a single pathological group, but include inflammations, neoplasms, hypertrophies, and such alterations of the skin as may result from previous disease or injury.

The author reviews the diseases which may undergo this change: namely: eczema, psoriasis, dermatitis from tar, paraffine, lupus vulgaris and other forms of cutaneous tuberculosis; lupus erythematosus, ulcerative lesions of tertiary syphilis, new growths, congenital or acquired; chronic ulcers of the leg, cicatrices from any cause, arsenical keratoses. But the most frequent of all these, and therefore the most important, is that condition seen on the face and hands of adults past fifty, the so-called senile seborrhea, acne sebacee partielle, acne concrete of French authors, the senile keratoma of Besnier, a name to be preferred to any of the preceding. The author has studied material derived from five patients, in all of whom the keratosis was associated with epithelioma.

In all there was a marked increase in the thickness of the corneous layer, the nuclei being still present. The greatest increase in thickness was about the mouths of the hair-follicles and sweat-ducts, the former being filled with horny plugs. The granular layer had in most places disappeared, but was still well preserved about the hair-follicles and openings of the sweat-ducts.

In the newer lesions there was a slight increase in the width of the rete mucosa, with numerous dividing cells and multiplication of nuclei. In the older lesions there were all degrees of increase in the thickness of the rete up to actual invasion of the corium and beginning epithelioma. With the exception of a decided flattening out and in some cases the complete disappearance of the papille, the corium presented but little alteration. The sebaceous glands

showed nothing abnormal, but the coil glands and their ducts showed pathological changes in every case. They showed marked proliferation of their lining epithelium with increase of size of cells, so that the lumen of the tubes were frequently obliterated. Other parts showed cystic dilatation, with flattening out of the lining epithelium. In fact, such change was so uniformly observed in the sweat-gland apparatus that the writer is of the belief that these structures probably play an important role in this form of keratosis, a conclusion further supported by the fact that in other forms of circumscribed keratosis, more particularly arsenical keratosis, marked hyperidrosis sometimes precedes the appearance of the keratotic lesions.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

The Etiology of Ozena.—FREUDENTHAL (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft 3).—The author in a very interesting and instructive paper read at the Fourteenth International Medical Congress at Madrid, discusses the etiology of ozena. He believes that this as well as baldness and impacted cerumen have a common cause, viz., the dry air furnished us by our modern heating devices, and to which he has given the name "xerasia." The dry air in passing through the nose absorbs all the moisture in the cells, resulting in their death and an atrophy of the mucous membrane as well as the deeper structures. The odor of these ozaena cases he claims is due to the action of the bacillus of Abel.

In closing, the writer gives the following conclusions:

1. Ozena is an atrophy of the nasal interior, which is brought about by atmospheric influences—xerasia.
2. The bony structures of the turbinates seem to atrophy early.
3. The consequences of the diminution of the moisture in the air are noticed in all parts:
 - (a) The nasal interior, and here belong diseased conditions which were formerly looked upon as different affections, as *ulcus septi nasi perforans*, atrophic rhinitis, and many forms of epistaxis, etc.
 - (b) Neighboring parts of the body (scalp, ears, lips, teeth).
 - (c) Possibly other parts of the body.
4. To make an ozena out of this atrophy, an invasion of large numbers of diplococci similar to Friedlander's bacillus is necessary.
5. This invasion occurs at a very early period in life and is probably in many cases carried directly from the vulva.
6. Local areas of disease are frequently the result of an ozena.
7. According to the above, ozena is a genuine disease with atrophy as its basis.

The Cause and Specific Treatment of Hay Fever.—MAYER (*N. Y. Med. Jour.* and *Phila. Med. Jour.*, August 8, 1903).—In giving his experience with Prof. Dunbar's toxine and antitoxine, the writer states that it was about the same as that of Dunbar himself, and that of Semon and McBride. He obtained the same reaction in practically all of the spring hay fever cases; there was absolutely no reaction to be obtained in the autumnal cases, and that in each instance, save one, there was no reaction in the control cases. As the experiments were made only with the rye pollen toxine, the reaction in the autumnal cases might have been

brought about if some one of the other toxins had been employed. Mayer states, further, that it is too early to discuss the outcome of these investigations, but is inclined to believe that the cause and treatment of the spring variety of our American hay fever are known, and that it should not be difficult to find the toxin for the autumnal variety.

On the Influence of Hypertrophy of Parts of the Lymphatic Ring of the Throat in General and of the Adenoid Tissue in Particular on the General Health.—W. N. NIKITIN (*St. Petersburger Medicinische Wochenschrift*, No. 27, 1903).—In a very comprehensive article Nikitin reviews the symptoms and remote effects of hypertrophy of the lymphatic ring of Waldeyer. He states that when we speak of a patient having adenoids or hypertrophied tonsils, we point out only the locality where the disease process is most prominently developed. The disease manifests itself beyond the limits of the lymphatic ring and involves the deep lymphatic glands in the neck, which are nearly always more or less infiltrated.

He also calls attention to the fact that recent physiological observations made by Duval teach us that the lymph glands in the throat produce only the ordinary leucocytes, which are entirely different from the phagocytes, and that Lexer's experiments on animals have proven that those areas which are richest in lymphoid elements are most easily infected, whereas the oral cavity, which is only poorly supplied with these tissues, is rarely infected. The latter, the writer states, only proves what is a daily observation on human beings.

In this review the author wishes to point out that hypertrophy of parts of the lymphatic pharyngeal ring really has deleterious influences on the general health, not only of children but adults as well. He wishes also to call attention to the necessity of a thorough removal of adenoids, for a spontaneous disappearance of the remaining growths cannot be counted upon, as these often give rise to trouble later in life.

On the Relation of Pharyngitis Granularis and Lateralis to Tuberculosis.—SOKOLOWSKY (*Archiv fuer Laryngologie und Rhinologie*, Band 14, Heft. 3).—In order to determine the relation of a granular pharyngitis to tuberculosis the author removed the granulae from the throats of thirty-four patients and had them examined histologically. Among that number thirteen had tuberculosis or lupus of other organs. Of these thirteen the microscopical examinations of the granulae, eight showed tubercular infiltrations. In one case in which tuberculosis was not even suspected, the histological examination of granulae revealed tuberculosis. An examination of the lungs later showed a slight involvement of the left apex.

The writer's conclusions are:

1. That a pharyngitis granularis or lateralis is often of a tubercular nature when there is a tuberculosis or lupus present in some other part of the body.
 2. That the tubercular involvement of these granulae correspond to the latent tuberculosis found in the tonsils.
 3. That the extirpation of these granulae can often lead to a diagnosis, and prove to be of prophylactic and therapeutic value.
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The Principles of Rhinologic Practice.—PYNCHON (*Laryngoscope*, July, 1903).—The author states that idealism is the goal aimed at in the practice of medicine, and he strongly advocates idealism in rhinologic practice. A structural deformity of some kind will be found present in the noses of all, or nearly all, who apply for relief from nasal troubles, and the rhinologist will do his patients the most good by taking such steps as will cause the nasal passages to resume

the conformation and potency of the ideal standard. Just what constitutes the ideal standard and the rules for obtaining it the writer gives the following:

1. In the normal nose the nostrils should be of equal caliber, and should jointly have a sufficient capacity to at all times supply the requirements of easy nasal respiration.

2. In the ideal nose the walls of the septum are practically plane, and are at no time or place touched by the tissues of the outer wall in either passage; and, furthermore, no points of contact exist elsewhere therein so as to interfere with either ventilation or drainage, or prevent the normal evaporation of nasal moisture.

3. While in an ideal nose the septum is vertical and nearly plane, a moderate irregularity thereof will not impair the nasal respiratory functions, providing there are no points of contact or abrupt elevations therein, and the lumen at all points is sufficient.

4. Abnormal redness of the nasal mucous membrane is an unfailing sign of irritation, the cause of which is generally of a structural nature, and therefore amenable to surgical treatment.

5. The indications for operative interference depend upon both the subjective and objective symptoms. A noticeable inadequacy of either nasal passage, the presence of excessive or retained secretions, or an abnormal redness of the mucous membrane at any point, are all evidences of abnormality which, if coupled with inconvenience to the patient, invite corrective attention.

6. In the treatment of chronic hypertrophic nasal troubles the indication is to remove all obstructive, redundant or pathologic tissues, and at all times the chief indication is to cause the defective nose to conform as nearly as practical to the contour and character of the ideal standard.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Need of a Supplementary Lantern Test for the Proper Examination of Color Perception.—(*Boston Med. and Surg. Jour.*, July 30, 1903).—Experience has shown that some individuals can pass the Holmgren wool tests correctly and without hesitation who are yet unable to distinguish the red and green lights of a distant signal. Cases of this sort have usually acquired a central defect for colors as the result of the use of tobacco or alcohol, or both, and the wool tests are large enough to affect the retina outside of the scotoma. Small objects, like distant signal lights, form their image entirely within the area of color scotoma, and hence their color is not recognized. It is important, therefore, to have a test for railway employes which shall, as nearly as possible, reproduce the conditions of actual service. In 1892 Williams constructed a lantern which has undergone several modifications. In its present form (1903 model) it consists of a revolving disk carrying eighteen colored glasses. Two incandescent lights, whose intensity is varied at will by means of a rheostat, illuminate two openings before which the glasses of the disk can be rotated in succession. A shutter permits one or two lights to be shown at a time. Experience has shown that with two lights showing, a person with defective color perception is often more confused than when he is asked to name only a single light. Each colored glass has a corresponding number which is recorded with the color named.

The test is made in a darkened room, with the lantern twenty feet from the person examined. At this distance the area of the larger opening corresponds to the apparent size of a standard switch light at a distance of one hundred and sixty feet. The area of the smallest opening corresponds to a switch light at a distance of one thousand three hundred feet.

Williams concludes that the lantern test and Holmgren wool tests, carefully made, will not permit any dangerous case of defective color sense to be passed.

A Balance for Knife Testing.—PRIESTLEY SMITH (*Ophthalm. Review*, August, 1903).—The little instrument devised by the writer is intended to supplement the simple drum-head covered with kid in testing the puncturing and cutting capacity of the various knives used in ophthalmic surgery. It consists of a miniature see-saw, one arm bearing the drum, the other marked in grams and carrying a sliding weight. To test the point of a knife the drum is placed with the leather horizontal. The weight is moved down the scale until the point gently pressed down in the transverse diameter of the drum-head persistently punctures the leather.

To test the edge the knife is passed through a slit in the leather placed vertically, and the weight moved down until gentle pressure cuts the kid instead of depressing the arm bearing the drum-head. The instrument gives a more accurate test than the unaided hand. With a given piece of leather it is possible to place a number of knives in order of merit and to determine the effect on a knife of immersion in boiling water, antiseptic fluids, and of use.

Treatment of Trachoma.—J. H. CLAIBORNE (*Med. Record*, August 8, 1903).—Claiborne classifies trachoma into (1) non-inflammatory and (2) inflammatory.

The non-inflammatory type is characterized by the formation of sago grains on the mucosa of the upper and lower lids, and is, according to the writer, distinctly contagious.

The inflammatory type is ushered in by an acute conjunctivitis, accompanied by lachrymation, photophobia and discharges. Discrete granulations appear, which coalesce. Finally the lids cicatrize and pannus forms.

The treatment is either medical or surgical, or both. Astringents are always beneficial. Jequirity is dangerous, and should be restricted to cases of severe pannus and keratitis. "Silver nitrate is of but slight value in the treatment of real trachoma." Claiborne pins his faith to the copper sulphate crayon, which he applies in the following manner: The upper lid having been everted, a thin, smooth parallelogram of the crystal is carried well up to the cul-de-sac and brushed lightly across. This same procedure is carried out in the lower cul-de-sac. The excess of copper is then wiped away.

Especially baneful are the effects of dust, smoke and vitiated atmosphere. Often a lasting cure is effected only after an entire change of surroundings.

Surgical treatment is most effective in cases with sago grains. Methods include (1) grattage, or scrubbing the surface of the lids with a coarse brush and rubbing in a 1-500 sublimate solution; (2) galvano cauterization of granules; (3) cauterization with a platinum probe; (4) scarification, followed by electrolysis along the lines of incision; (5) excision of a strip of conjunctiva containing granules; (6) curettage after opening the capsule of the granulation with a knife; (7) scarification, and (8) expression. The latter is "the most reasonable, thorough and effective form of treatment." The technic of the operation (performed with Knapp roller forceps, or one of its modifications) is as follows: The everted upper lid is grasped at its folded edge by fixation forceps and pulled forward and upward. The rollers, one above and one beneath the folded lid, are carried well back, the handles are brought together and the rollers drawn

forward. The granules are thus "expressed." The same procedure is carried out on the lower lids.

Claiborne has devised a roller forceps which consists of roughened elevations arranged in parallel on cylinders. In rolling, these forceps rupture the surfaces of the granules and thus allow easier expression. Advantages over fluted cylinders are (1) less force is required to destroy the granules, (2) absence of post-operative swelling.

In order that the expression may be thorough, general anesthesia is necessary. The after-treatment consists of zinc and boric acid collyria till the post-operative membrane has disappeared. Then 1 per cent. silver nitrate for a few days and finally copper sulphate crayon.

In acute inflammatory trachoma the granules, whether discrete or confluent, should be expressed. Medicinal treatment should be applied in cicatricial cases with clouded corneæ. Atropine in pannus is unnecessary or harmful, and should be reserved for cases where iritis is very positively present.

Subtropical Trachoma.—R. A. WRIGHT (*Jour. A. M. A.*, August 8, 1903).—Dr. Wright believes that the disease as it appears in southern Alabama is relatively milder than it is in Germany. He has met with no cases in negroes.

The paper is a plea for the more extensive use of copper citrate in this affection. Its principal claims for consideration are (1) that it produces absorption and disappearance of granulations and hypertrophied papillæ quite as rapidly as other preparations; (2) that it produces less irritation in the lids, less pain and discomfort to the patient; (3) that patients will use it regularly in home treatment. Excessive secretion must first be controlled by silver nitrate. Wright recommends a 3 per cent. to 10 per cent. ointment, applied twice daily.

MISCELLANEOUS ITEMS.

THE LOUISIANA PURCHASE EXPOSITION will exhibit more features of particular interest to the medical profession than has ever been attempted in the history of World's Fairs. This is very gratifying, and the profession will appreciate and heartily second the efforts of the management to make these exhibits a prominent part of the exposition. The science of medicine has made rapid progress in the past few years, and the education of the masses in the matter of preventing disease is not the least of what is being done in prophylaxis and in the control of disease when it has become active. The World's Fair of 1904 will exert a tremendous influence in this direction.

THE PREPARATION of a "Pathological Laboratory" made up from the museums of hospitals and medical institutions to show the diseases of special organs as well as the normal organs is under way as a part of the exhibit of the Charities and Corrections section of the Department of Social Economy. Supt. Alvin E. Pope, of this section, has written to prominent physicians in various parts of the country, asking them to contribute from their collections such specimens as will carry out this general scheme. Each disease specimen will be preserved in some attractive way, so that it can be readily examined, and will be accompanied where possible by a microscopic slide showing the micro-organism which causes the disease. In connection with the pathological laboratory exhibit, models, drawings, photographs, charts and statistics relating to noted hospitals in this and other countries will be shown.

GERMANY WILL exhibit a complete set of instruments, utensils and other apparatus used in a fully equipped medical college. This should prove a most interesting exhibit.

HIGHER EDUCATION of the trained nurse is discussed editorially in *The Trained Nurse and Hospital Review* for August, 1903, and in the same number is published a reprint or an article by Francis P. Denny, of Brookline, Mass., and an editorial from the *Brooklyn Medical and Surgical Journal*. The subject is an interesting one to the nurse, the doctor and the hospital. The advantages gained by a preparatory study entered into for the purpose of fitting one to properly discharge the duties he assumes when he crosses the threshold of that profession, trade, occupation or service which he chooses for his life's work cannot be overestimated. Dr. Denny advocates the establishment of an institution for the training of nurses independent of the hospital, from which institution the hospital would draw its supply of nurses. We suppose it will come to this, and we believe it will be a benefit and satisfaction to the nurse and the hospital as well as the physician. Such a department could be added to an educational institution, and the hospital would receive women prepared to enter the sick room and capable of discharging the duties with intelligence and precision. The trained nurse is an important part of the medical profession, an indispensable aid to the busy physician, a comfort to the patient, a friend of the family. She cannot be too well trained; she cannot be too highly educated. It is, therefore, with a feeling of gratification that we see her reaching out for more light, more knowledge, and evincing a determination to develop all that is in her for the advancement of her profession. We do not fear that the higher education of the trained nurse will render her less helpful to the community or induce her to demand more pay for her services. On the contrary, we have faith in human nature, and we believe the elevation of the standard will draw to the ranks that class of individuals who feel themselves capable of rising to the heights which others have reached.

THE AMERICAN MICROSCOPICAL SOCIETY will hold its annual meeting in St. Louis during the week of December 28th of this year, in affiliation with the American Association for the Advancement of Sciences.

BOOK REVIEWS.

LES ENFANTS RETARDATAIRES. Par E. APERT. Paris: J. B. Bailliere et Fils. pp. 95.

This little monograph presents in condensed form the existing views on the subject of arrested development of children. The various types of infantilism, of myxœdema, as well as certain other forms of arrested development, intellectual, as well as physical, are reviewed. There follows a discussion of causal local lesions. The book will well repay careful reading.

LES MALADIES INFECTIEUSES. Par G. H. ROGER. Illustrated. Masson & Cie, Paris. pp. 1496. 1902.

Professor Roger's work on the infectious diseases is one of the most important contributions to a department of medicine that has received much attention of late. The author's original and experimental researches in this field have been very extensive, and in this work he presents not only his own views, but also a resume of the opinions of leading authorities on the various questions. After general consideration of infectious processes, their etiology, pathogenesis, and the reaction of the organism to them, the special varieties of infection are studied in detail. Then follows a minute study of the changes produced in the various organs, a discussion of immunity and predisposition, and finally a general discussion of diagnosis, prognosis, and treatment.

The value of the work is greatly enhanced by the extensive bibliography appended throughout. The work may truly be regarded as a reference cyclopedia upon the subject.

THE CONCISE OBSTETRIC RECORD. Published by the Systematic Record Publishing Co., Detroit, Mich. Sent prepaid on receipt of \$2.00.

This book consists of two-page blank forms for keeping complete records of obstetric cases in a concise form. These blanks are very conveniently arranged and fully meet the requirements of such work. The possibility of summarizing each year's work with the help of this book offers to the busy general practitioner a great variety of important advantages. We think that no physician who does a great deal of obstetric practice can afford to be without such a means of recording his cases.

A NURSE'S HANDBOOK OF OBSTETRICS. For use in Training Schools. By JOSEPH BROWN COOKE, M. D. Philadelphia and London: J. B. Lippincott Co. 1903. Price, \$2.00.

This volume is destined to fill a long-felt need. It contains all of the science and art on obstetrics that a nurse need know in order to practice her profession in an intelligent manner. The subject-matter is presented in a way that will be perfectly clear to the beginner in the study of nursing. We would, however, state here that some of the writer's teachings, most probably in his endeavor to avoid too complex and intricate problems, are not entirely compatible with the doctrines of modern obstetrics.

As a whole this book must be considered a most valuable contribution to medical literature. It will undoubtedly prove a welcome aid to teachers in training schools.

A **THESAURUS OF MEDICAL WORDS AND PHRASES.** By WILFRED M. BARTON, M. D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and WALTER A. WELLS, M. D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Handsome octavo of 534 pages. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Flexible leather, \$2.50 net; with thumb index, \$3.00 net.

This work is presented as the only medical thesaurus ever published. It is intended to assist those who have to write or to speak to give proper expression to their own thoughts. In order to enhance the practical application of the book cross references from one caption to another have been introduced, and terms inserted under more than one caption when the nature of the term permitted. In the matter of synonyms of technical words the authors have performed for medical science a service never before attempted. This thesaurus of medical terms and phrases will be found of great value to all persons who are called upon to state or explain any subject in the technical language of medicine.

NEW BOOKS ANNOUNCED.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By G. L. RICHARDS, M. D. Profusely illustrated, bound in cloth, about 375 pages. Price \$2.00. International Journal of Surgery Co., New York.

THE DISEASES OF SOCIETY. A Work on Sociology, Embracing Criminology, the Social Evil, etc., will be published shortly. The volume is written by G. FRANK LYDSTON, M. D., of Chicago.

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